UNIVERSITY
MARYLAND
LIBRARY

FIRE ENGINEERING

A Consolidation of
FIRE AND WATER ENGINEERING *and* THE FIRE ENGINEER

MARCH 25, 1926

AMERICAN-LA FRANCE

Ask the Chief

of nearly any community that has American-La-France in its fire department what he thinks of it.

The reply will invariably be the same: Unequalled for road speed and flexibility; for stamina in pumping and minimum cost of upkeep.

AMERICAN LA FRANCE FIRE ENGINE COMPANY, INC.

ELMIRA, N. Y.

CANADIAN FACTORY: TORONTO, ONT.

BRANCHES	BRANCHES
NEW YORK	BALTIMORE
PITTSBURGH	DENVER
BOSTON	SAN FRANCISCO
CHICAGO	MINNEAPOLIS
ATLANTA	KANSAS CITY, MO.
DALLAS	LOS ANGELES
PHILADELPHIA	PORTLAND

AMERICAN FIRE APPARATUS LA FRANCE

The Journal of the Fire Protection Profession Since 1877

MEMBER
Audit Bureau of Circulations
Assoc. Business Papers, Inc.

FIRE ENGINEERING

A Consolidation of FIRE AND WATER ENGINEERING and THE FIRE ENGINEER

Published the 10th and 25th of each month

SUBSCRIPTION PRICE
U. S. $3 a year; Canada $3.50
Foreign $4; Single copies, 25c.

Issued at Lyon Block, Albany, N. Y.,
by CASE-SHEPPERD-MANN PUBLISHING CORP.
Also publishers of "Water Works Engineering," Technical Books, etc.

Executive and Editorial Offices,
225 West 34th Street, New York City
All communications, including Editorial, Advertising and Subscription, can be directed to either of the above addresses.

KARL M. MANN
President and Advertising Director

FRED SHEPPERD
Managing Editor

I. HERBERT CASE
Vice-Pres. and General Manager

H. S. ESSEX, Advertising Manager; ROBT. H. LOCKWOOD, Editor; NATHAN N. WOLPERT, Asst. Editor.

GEO. J. KUSS, Associate Editor
Former Deputy Chief in charge of High Value District New York Fire Department. Lecturer on fire fighting at Delehanty Institute, N. Y.

A. A. BELL, Associate Editor
Industrial Fire Protection Expert, Chief of Fire Brigades and Engineer of the Continental Insurance Co., and the "America Fore" Group of Fire Insurance Companies.

That Roving Eye!

THE other day we noticed the following item in the daily newspaper:

¶ "Young man strolling on Michigan Avenue, Chicago, turns to stare backwards as Mae Murray, beautiful film star, passes and he is hit by taxicab, knocked into heap in a mud puddle and pulled from under the wheels of a bus by a policeman just in time to save his life."

¶ We ourselves, have often been in similarly dangerous predicaments; and so let us point a moral for future guidance:

¶ Keep that roving eye focussed on something worth-while, *ahead* of you. Only in progress forward lies success; and we hope that FIRE ENGINEERING is helping its readers, little by little, to advance in their chosen work.

¶ What comments have *you* to make? Always glad to hear from you!

The Publishers

CONTENTS

MARCH 25, 1926

VOL LXXIX No.6

Increasing the Efficiency of Your Fire Department, by Charles W. Parsons (Portrait) 287
Should be in Perfect Condition at All Times, Pumpers Requiring Most Attention.

Salvage Work in Municipal Fire Departments, by Ralph J. Scott (Illustrated) 289
Growing Sentiment That it is Legitimate Duty of Fire Department—The Los Angeles System.

Small Streams Used and Fire Spreads (Illustrated) .. 291
Failure to Employ Heavy Streams Permits Flare to Ignite Frame Sash and Door Factory.

The University of Illinois Course of Instruction in Fire Protection (Illustrated) 293
John Plant, Fire Prevention Engineer, on Exit Facilities.

With the Editor 295
Comments on Current Events and Live Topics by our Editorial Staff.

Questions and Answers 297
Replies to Questions on all Manner of Subjects of Fire Fighting and Fire Protection.

Recent Important Fires Specially Reported (Illustrated) 299
Fire Destroys Cincinnati School—Large Billings' Mansion Destroyed—Burnings of Two Weeks.

Volunteer Fire Department (Illustrated) 303
Fire Alarm Zoning System—Volunteer Salvage Corps.

Recent Patents (Illustrated) 305
Description of Patented Inventions of Interest to Fire Department Officials.

Industrial Plant Protection (Illustrated) 302
Modern Bucket Brigades.

False Alarms 313
The Humorous Side of the Fire Protection Profession

Fire Department Activities 314
Newsy Notes from All Over the Country, with Matters Firemanic.

Fire Alarm Notes 314
News of the Activities of Fire Alarm Division of the Fire Department.

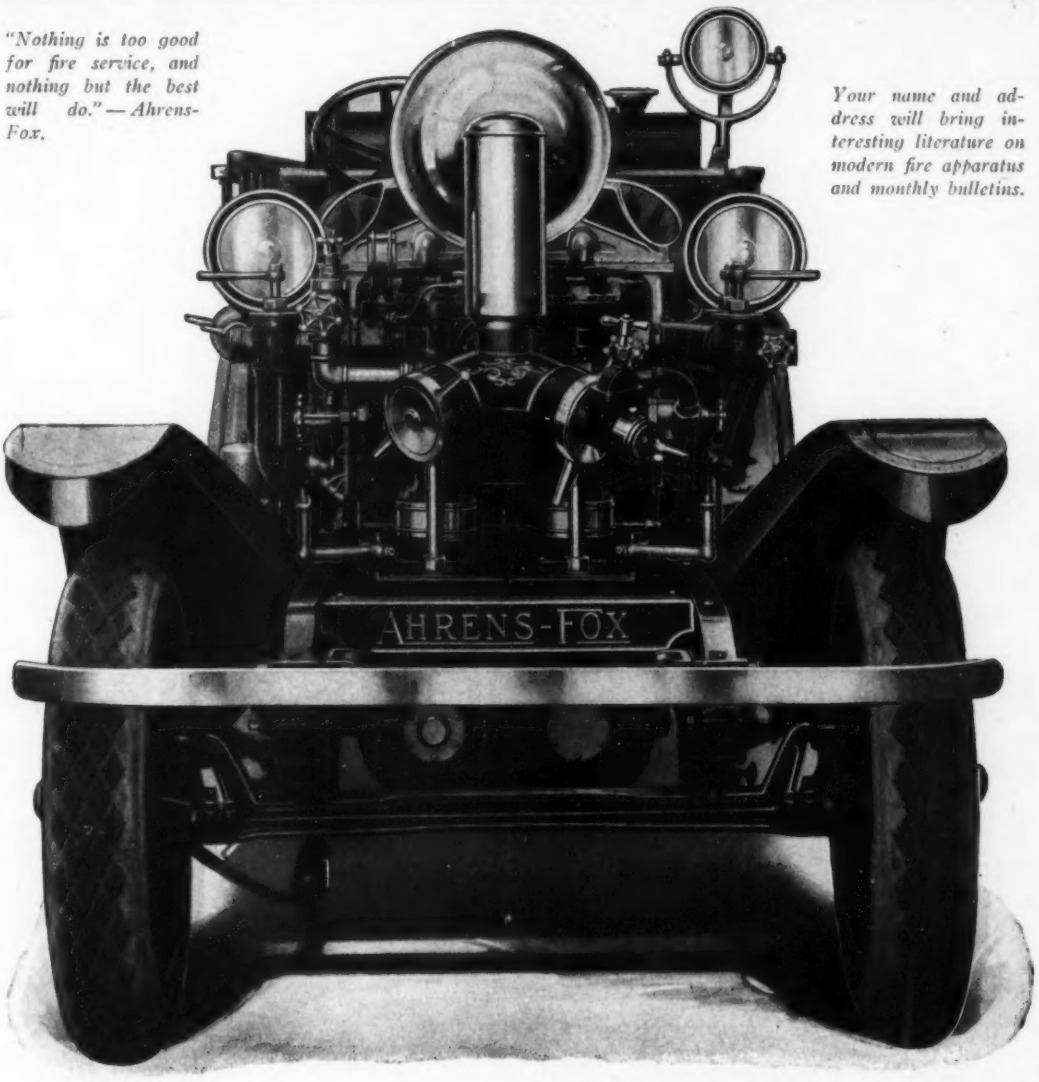
Fire Department Improvements 317
Record of Business Activities in the Fire Protection Field.

Contents of this issue copyrighted, 1926, by Case-Shepper d-Mann Publishing Corp., 225 W. 34th St., New York City

Entered as second class matter at the Post Office, Albany, N. Y. January 29, 1926 under the Act of March 3, 1879.

"Nothing is too good for fire service, and nothing but the best will do." — Ahrens-Fox.

Your name and address will bring interesting literature on modern fire apparatus and monthly bulletins.



The *"Fighting Face"* of

The Famous Ahrens-Fox Pumper

in service protecting life and property in cities throughout the country. Familiar to fire chiefs and other officials everywhere.

The Ahrens-Fox Fire Engine Co.

"Builders of Quality Fire Apparatus"

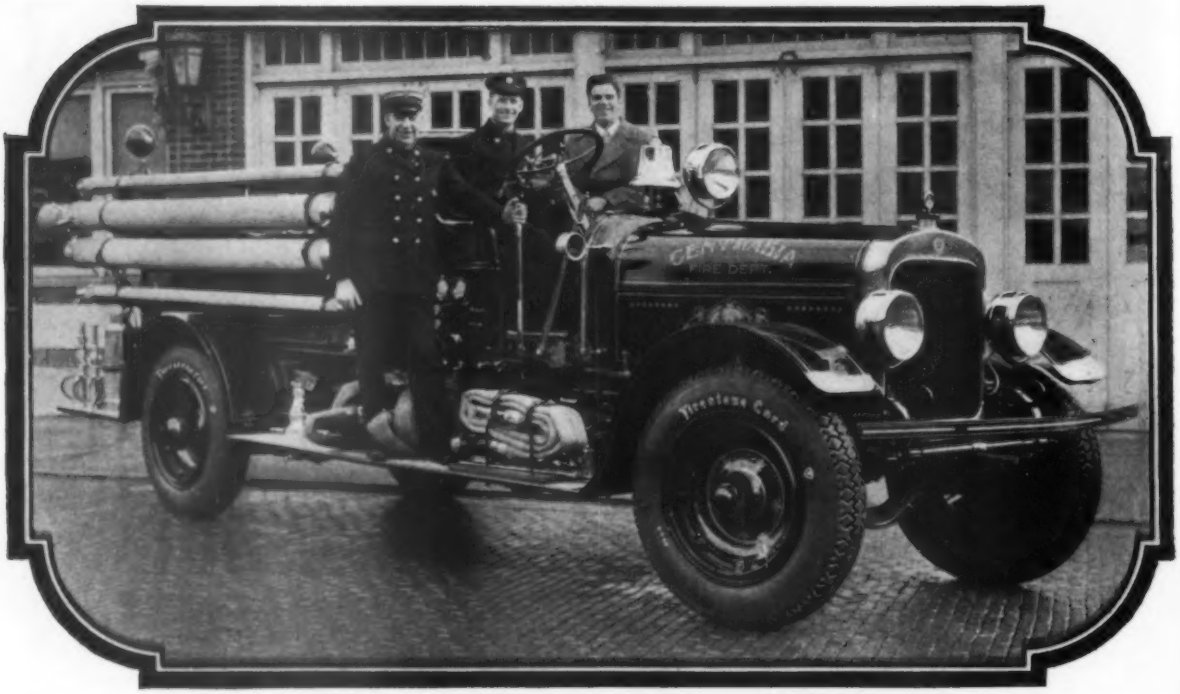
Cincinnati

Eastern Representative
J. A. PRESCOTT
Fisk Bldg., New York

New England Representatives
CARLOW AUTO CO.,
Taunton, Mass.

Chicago Representative
HENRY R. EARLY
Sherman House, Chicago, Ill.

California Representatives, PACIFIC FIRE EXTINGUISHER CO., San Francisco, Cal.
Western Central Representative, J. G. MATHENY, 3418 Central St., Kansas City, Mo.
Minneapolis Representatives, JOS. F. AUEL Company, 718 Builders' Exchange Bldg., Minneapolis, Minn.
Canadian Representatives, THE BICKLE FIRE ENGINE CO., Woodstock, Ontario



"Desiring the maximum in Safety and Dependability, I specified Firestone Gum-Dipped Pneumatics."

FRED B. WILCOX, Chief,
Fire Dept., Centralia, Wash.

"My order called for Firestone Pneumatics because of their pronounced ability to give traction and resist skidding on both wet and dry, paved and unpaved streets. Their additional sidewall protection against curb and rut wear, and known resistance against moisture, wear and ageing, were also given consideration."

Firestone Heavy-Duty Gum-Dipped Pneumatics grip the road with their powerful tread under all kinds of weather conditions—reducing side sway—holding the road on turns—and responding instantly to the driver's will.

Gum-Dipping, the exclusive Firestone extra process, insulates every fiber of every cord with rubber, minimizing destructive friction—building strength and endurance that gives low tire cost and protects the costly mechanism.

Fire Departments are equipping with Firestone Gum-Dipped Pneumatics in all parts of the country—in all towns and leading centers. Your nearest Firestone dealer will give you proven data of these wonderful tires. See him.

MOST MILES PER DOLLAR

The Mark of Quality

Firestone

Heavy Duty Pneumatics for Fire Apparatus

AMERICANS SHOULD PRODUCE THEIR OWN RUBBER . . . H. S. Firestone

Annual Fire Alarm Report

shows remarkably low percentage of only

8/100 of 1%

total losses to total value of property protected by

A. D. T. Manual Fire Alarm Service

THE PRESENCE OF OUR SERVICE AND
AVAILABILITY OF FIRE ALARM BOXES
PREVENT DISASTROUS FIRES

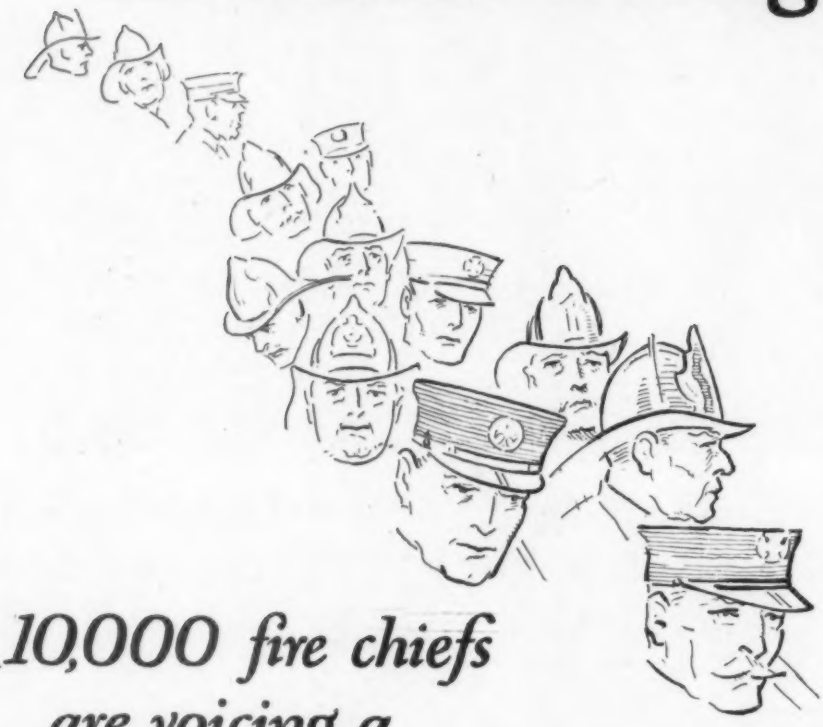
Fire Alarms Transmitted—A.D.T. System—1925

	Number Subscribers	Number Alarms Received	Reported Insurable Values	Losses Reported
Akron, O.	30	4	$ 19,199,205	200
Albany, N. Y.	35	1	39,728,000	0
Anderson, Ind.	17	2	2,472,500	10
Atlanta, Ga.	126	31	59,373,000	4,820
Baltimore, Md.	163	17	242,533,624	15,925
Birmingham, Ala.	72	8	18,515,000	100,700
Boston, Mass.	189	36	153,119,100	278,990
Bridgeport, Ct.	61	2	47,582,649	250
Brockton, Mass.	15	1	5,090,575	0
Brooklyn, N. Y.	630	111	2,436,780,034	350,288
Buffalo, N. Y.	247	27	157,340,500	481,175
Burlington, Vt.	8	0	2,800,000	0
Camden, N. J.	22	1	14,580,000	75
Canton, O.	30	6	17,892,000	650
Cedar Rapids, Ia.	23	3	31,511,700	20
Charleston, S. C.	32	6	10,480,500	254,000
Chattanooga, Tenn.	59	17	9,694,543	335,775
Chicago, Ill.	1120	275	1,901,610,195	4,049,012
Cincinnati, O.	190	29	281,798,620	20,852
Cleveland, O.	417	79	443,057,380	503,985
Columbus, O.	135	18	111,694,585	22,204
Dallas, Tex.	52	5	132,856,250	45,000
Davenport, Ia.	27	2	12,154,042	275
Dayton, O.	108	15	54,407,186	12,665
Des Moines, Ia.	32	5	21,240,431	100,260
Detroit, Mich.	363	109	180,925,000	112,192
Dubuque, Ia.	12	3	9,178,446	0
Duluth, Minn.	67	6	75,843,000	3,600
E. St. Louis, Ill.	41	14	32,556,120	160,025
El Paso, Tex.	14	5	5,688,000	1,100
Erie, Pa.	12	5	7,165,800	148
Evansville, Ind.	49	3	11,850,500	65,000
Fort Worth, Tex.	40	16	52,755,000	43,375
Galveston, Tex.	32	6	31,071,641	0
Grand Rapids, Mich.	87	20	39,694,603	1,760
Green Bay, Wis.	17	6	9,063,455	50
Hamilton, O.	32	6	33,427,667	100
Hartford, Ct.	65	1	54,054,143	0
Houston, Tex.	71	11	71,455,728	2,010
Indianapolis, Ind.	218	20	111,946,280	33,262
Jackson, Mich.	15	3	4,805,000	2,000
Jacksonville, Fla.	50	12	28,010,000	4,750
Jersey City, N. J.	157	22	101,066,073	79,935
Kalamazoo, Mich.	25	2	9,632,428	10
Kansas City, Mo.	154	42	108,027,025	54,396
Knoxville, Tenn.	15	6	7,250,000	350
Lansing, Mich.	12	6	6,020,000	200
Lincoln, Neb.	27	3	7,430,600	485,100
Long Island City, N. Y.	253	34	165,593,580	15,200
Los Angeles, Cal.	384	60	305,786,800	131,175
Louisville, Ky.	238	50	119,026,314	22,880
Lynn, Mass.	1	1	2,000,000	500
Macon, Ga.	34	10	8,053,000	8,600
Mansfield, O.	16	4	8,525,000	600
Marion, Ind.	10	4	4,725,000	6,100
Memphis, Tenn.	181	36	53,330,000	198,325
Milwaukee, Wis.	228	24	169,847,000	219,100
Minneapolis, Minn.	198	38	119,955,095	687,256
Moline, Ill.	23	6	36,169,286	3,015
Muncie, Ind.	28	10	12,583,000	260
Muskegon, Mich.	27	22	20,110,819	10,030
Nashville, Tenn.	90	26	47,075,000	11,080
Newark, N. J.	225	35	235,809,495	847,040
Newark, O.	12	0	4,475,000	0
New Haven, Conn.	44	1	26,756,875	0
New Orleans, La.	170	35	242,264,350	119,740
New York, N. Y.	1,201	80	4,182,302,785	172,250
Niagara Falls, N. Y.	25	3	24,625,500	200
North Tonawanda, N. Y.	24	8	16,815,611	27,600
Oakland, Cal.	140	32	108,596,053	41,170
Oklahoma City, Okla.	23	2	23,525,000	4,000
Omaha, Neb.	71	16	33,936,000	250
Oshkosh, Wis.	19	11	10,364,245	20,525
Ottumwa, Ia.	3	1	7,375,000	100
Paducah, Ky.	19	1	2,150,000	80,000
Paterson, N. J.	140	3	26,624,000	24,100
Peabody, Mass.	4	2	15,168,750	0
Peoria, Ill.	35	7	35,106,536	81,100
Philadelphia, Pa.	384	43	1,437,774,278	131,025
Pittsburg, Pa.	190	84	$ 122,514,497	$ 45,812
Portland, Me.	36	5	14,956,000	650
Portland, Ore.	119	18	59,442,533	5,364
Quincy, Ill.	18	1	1,615,000	0
Racine, Wis.	19	2	17,052,446	75,050
Rochester, N. Y.	117	14	94,799,787	67,920
Rockford, Ill.	23	5	25,355,760	0
Saginaw, Mich.	37	13	18,385,000	6,300
Salt Lake City, Utah	48	3	53,941,315	170,400
San Antonio, Tex.	53	8	23,231,802	117,715
San Francisco, Cal.	283	41	174,234,269	19,975
Savannah, Ga.	27	10	23,937,000	221,005
Scranton, Pa.	34	11	20,469,093	7,100
Sioux City, Ia.	32	13	36,989,200	8,700
Sioux Falls, S. D.	10	0	3,722,000	0
South Bend, Ind.	12	3	6,140,000	50
Spokane, Wash.	101	10	58,405,212	3,055
Springfield, Mass.	44	13	98,813,910	0
Springfield, O.	47	10	25,531,115	300,095
St. Joseph, Mo.	21	2	26,638,382	20,000
St. Louis, Mo.	314	64	286,113,481	250,875
St. Paul, Minn.	104	35	149,099,498	42,920
Superior, Wis.	36	10	28,238,220	28,600
Syracuse, N. Y.	44	3	34,863,000	300
Tacoma, Wash.	71	27	31,818,000	155,610
Terre Haute, Ind.	27	3	8,607,690	205,025
Toledo, O.	215	39	145,245,000	223,902
Topeka, Kan.	21	5	9,715,000	250
Washington, D. C.	57	1	100,535,000	0
Waterbury, Conn.	20	3	4,516,625	500
Wausau, Wis.	14	8	2,528,353	3,400
Wichita, Kan.	25	4	5,189,750	1,365
Worcester, Mass.	26	6	25,565,000	3,017
Youngstown, O.	28	8	16,995,810	235,500
Zanesville, O.	23	1	12,121,000	50
TOTALS	11,995	2,096	$16,490,232,288	$12,648,256

American District Telegraph Company

183 Varick Street, New York City

JOHNS-MANVILLE
Asbestos Shingles



10,000 fire chiefs are voicing a demand for FIRESAFE roofs

AS surely as time passes, all fire authorities will ultimately demand fire-safety for every roof in thickly populated communities.

In the meantime many property-owners are recognizing the evil of the inflammable roof and striving to correct it—as the ever-increasing appearance of asbestos roofs on every type of structure indicates.

JOHNS-MANVILLE Inc., 292 Madison Ave., at 41st St., N. Y. C.
Branches in all large cities
For Canada: Canadian Johns-Manville Co., Ltd., Toronto

Asbestos
and its allied products
INSULATION
BRAKE LININGS
ROOFINGS
PACKINGS
CEMENTS
FIRE PREVENTION PRODUCTS

Every Fire Department needs this greatest of all weapons for fighting oil fires——

This shows the Amdyco Foam Generator and how easily it can be handled. Weighing less than 150 lbs. with all attachments, it can be carried as part of your regular pumper equipment.

How Amdyco powder is fed into the Generator. Water comes in one line, mixes with the powder, and goes out the other line as a foam stream. Hooking up the generator is just as simple as adding another length of hose.

AMDYCO
FOAM POWDER
used with the new Amdyco
FOAM GENERATOR

FOAM is unquestionably best for putting out oil, gasoline and other flammable liquid fires—but the best foam in the most practical form for effective "fool-proof" fire fighting now comes to you in the AMDYCO method. These are facts proven by actual performance at fires, as well as numerous exacting tests conducted under direction of well-known fire authorities.

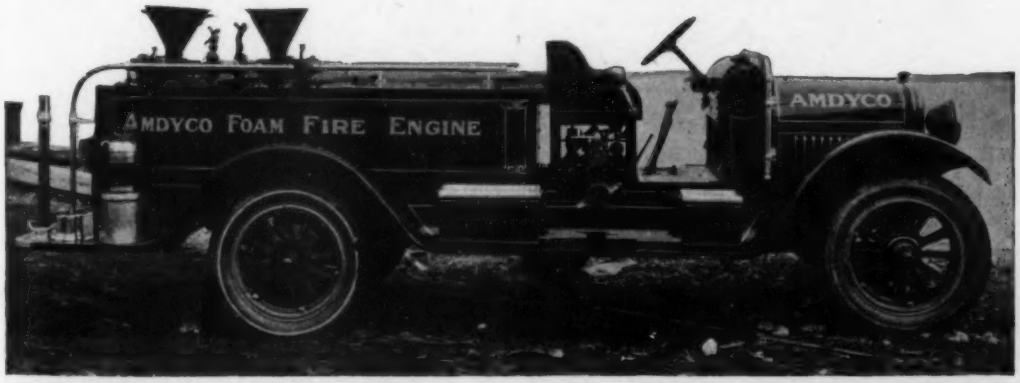
When foam is needed at a fire, the Amdyco Foam Powder used with the Amdyco Generator, makes it possible in a few minutes to convert any of your water streams into foam streams, without any other special equipment. You no longer have to contend with the limitations and uncertainties of carrying bulky "prepared" foam.

Your city or town, no matter how large or small, needs the security against dangerous liquid fires that only the AMDYCO method can give. And best of all you can get the complete outfit at surprisingly small cost. Better write today for full particulars.

AMDYCO CORPORATION

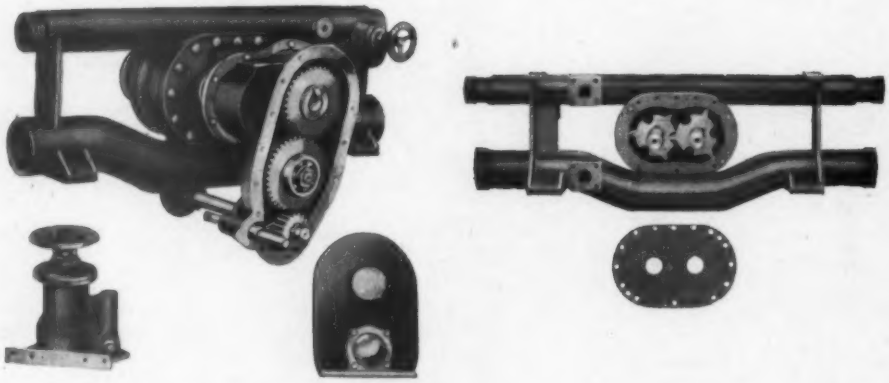
"Better Foam in Better Form"

100 E. 42nd St., NEW YORK



THIS PHOTO shows a specially designed Amdyco Foam Pumper, fully equipped, for use where unusual hazards exist. The same pump can handle water streams as well as foam.

ACCESSIBILITY



It's Easy To Get At the Inside of the Waterous

The primary purpose of the Waterous Rotary Pump is to pump water and to give trouble-free service. Like everything mechanical, it is assumed that sometime it might be necessary to make certain repairs or adjustments.

Reference to the above pictures will show that the interior of pump or of gear case can be exposed in a moment's time, simply by removing a few cap screws.

Charges for repairs are directly proportional to the time required to do a certain job, and it is evident that the maintenance cost of a Waterous is extremely low.

This is but one more reason why the Waterous is the best all around fire pump on the market today.

We are always ready to prove our claims.

WATEROUS FIRE ENGINE WORKS
INCORPORATED

Also Manufacturers of the "Waterous" Fire Hydrant

Saint Paul, Minnesota

Established Waterous Dependable ROTARY PUMP 1886

FIRE ENGINEERING

(A Consolidation of FIRE AND WATER ENGINEERING and THE FIRE ENGINEER)

The Leading Journal of the Fire Protection Profession

VOLUME LXXIX MARCH 25, 1926 NUMBER 6

Increasing the Efficiency of Your Fire Apparatus

Should Be in Perfect Condition at All Times—Pumpers Require Most Attention—Necessity for Training of Operators

By CHARLES W. PARSONS, Engineer, Illinois Inspection Bureau*

IF it is worth while to purchase the best in fire apparatus it is also worth while to take care of it when in service. The following paper stresses the necessity for the exercise of intelligence in the upkeep of such apparatus:

Good tools are necessary for good work in any business or profession. They must be kept in perfect condition and be used skilfully in order to obtain the best results. These facts apply to fire apparatus fully as much as to the tools used in other professions. They are particularly applicable to the equipment upon which the fire department relies to accomplish the great service to humanity to which the chief and his men have dedicated their lives.

Charles W. Parsons, Engineer, Illinois Inspection Bureau.

You, Mr. Chief, will realize more than anyone else the disaster which might sweep over your home city if your fire apparatus failed at the moment when so much depended upon it. You can be a powerful factor in preventing that disaster. Your recommendations and influence can do much to encourage the officials of your city to purchase the apparatus that you need and the type best suited to your city. Your diligent care of the equipment which you have will insure its proper performance when you most need it. Your ability to use this equipment in the most efficient manner for stopping the particular fire being fought will confine to a slight loss what otherwise might have endangered scores of lives, destroyed many homes and brought disaster to your city. In this respect you have a grave responsibility and a wonderful opportunity.

Purchase of Inadequate Equipment Bad Policy

A department needs a certain amount of modern apparatus to make any kind of a defense against the ravages of fire. The amount and type of this apparatus should be determined by the character of the group of buildings where fire might break out and gain great headway. Unfortunately for many cities, however, the type of apparatus with which their department is equipped is determined by financial limitations or financial excuses. Such a condition is too frequently taken as a sufficient reason for purchasing minimum priced equipment entirely inadequate in size, of insufficient motor power for the load and built of many parts not designed for severe service and which may not be available for future replacement needs. That is obviously a very unwise policy.

Fire apparatus fortunately is used only occasionally and if given proper care should last many years. The moment a fire alarm rings you want to know that the apparatus is all set to go instantly. You do not want any weak parts which at the critical moment might fail to work. A broken down fire truck and a burning city is a combination which brings credit to no one. Purchasing cheap fire apparatus is very poor economy. The average citizen thinks he has perfect protection, when actually he would have only inadequate protection and a fair chance of having even that taken away by some break in the equipment. Cheap equipment doesn't seem to survive the keen sales competition and after ten years it is often impossible to obtain replacement parts. Apparatus which should have been in reliable condition after such a period of years must therefore frequently be taken out of service for days and even weeks while special parts are being made. Repeated experiences of that sort will often result in junking the cheap apparatus while a better truck for which replacement parts are always quickly available will be satisfactory for many years longer. Modern fire apparatus should be provided in the proper amounts and type. If the amount is limited, make sure of the type and quality.

Apparatus Must be in Perfect Condition at All Times

The apparatus that is provided should be kept in perfect condition at all times. Good equipment can be maintained with a relatively small amount of effort. Inferior equipment should be given special care and every precaution taken to prevent a break down from any cause. In the larger departments all pieces of apparatus should be thoroughly overhauled at regular intervals and be frequently inspected by qualified mechanics in the department's repair shop. The size of such a shop would depend upon the size of the department, but even the smaller paid departments should have at least a small shop and an able fire apparatus mechanic. In volunteer departments some capable man should be held responsible for keeping the apparatus in first-class condition.

Apt to Take Motor Reliability too Much for Granted

The motors of our modern automobiles are generally so reliable that we take too much for granted and give too little atten-

* From a paper read before the annual convention of the Illinois Firemen's Association at Kewanee.

"In obtaining fire apparatus the best is none too good. It should be kept in perfect condition by regular examination and trial, and by conscientious care. In order to enable one city to use its apparatus to help another at the time of a conflagration all hydrant and hose threads should be changed to conform to the National Standard. The greatest efficiency cannot be expected from fire apparatus unless each member of the department has been properly trained."

tion to their condition. The apparatus motors should be started at least once every day. Many volunteer departments are very careless and neglect this important precaution, and then express themselves very forcefully when the motor hesitates at the critical moment after the alarm has sounded. The proper adjustment of the carburetor is of paramount importance, and proper consideration should be given the seasonal temperature and the fact that the truck is usually driven from a heated fire station into the frigid night air.

It seems unnecessary to mention that the battery should be kept properly charged, yet volunteer departments are frequently careless in this fundamental precaution. Chemicals should be in the best of condition and ample extra charges be carried. Hose drying racks or a tower are very important parts of a fire station, as the careful drying of hose will greatly lengthen its life and will prevent unnecessary trouble with breaks at fires. All hose should be tested annually to a substantial pressure and defective lengths discarded. The complete spare shift of hose for each piece of apparatus should be in first-class condition and in some cases can be made of even greater value by being carried on a reserve truck or a reserve cart equipped for towing to fires. All powerful stream appliances, minor equipment and salvage appliances should be kept on a ladder truck or on some piece of apparatus responding to all fires.

Pumpers Require Most Attention

Pumping engines require considerably more care than automobile trucks carrying only hose and ladders, as an otherwise capable truck driver may know practically nothing about the care and operation of a pump. Shop inspection of all pumpers is the regular routine of many large departments, and some apparatus companies furnish this service for their trucks at frequent intervals. All pumpers in every department should be given this same care, and all portions carefully inspected and the pump tested at regular times. Pumpers should be tried out weekly and the operator made familiar with all details of the proper operation for the various fire conditions. The great number of pumper tests which we make during the year indicates that a surprisingly large number of pumpers are either in only fair condition or are in charge of men who have had insufficient operating practice to obtain the full capacity of the machine. All those conditions should be corrected so that your city may obtain the greatest efficiency from its present apparatus.

Misfortune of Different Hose Coupling Threads

The rapid construction of hard roads throughout the country is making possible the more efficient use of our present fire apparatus by enabling neighboring cities to assist each other in case of a serious fire in any one community. The intervening distances can be covered in minutes and the help that can be summoned will often mean the difference between a bad fire held in check and a disastrous conflagration, destroying whole business blocks and scores of homes.

The very unfortunate and disastrous part of this effort of one city to assist another is that frequently a city's best or only pumper is driven many miles in response to another city's call for help leaving the first city unprotected and then discovering that it is of no value in the doomed city, due to a difference in hose threads. The property owners who have paid for the truck are thus left without the protection they are entitled to, the apparatus and the fire fighters are exposed to the strain of a long run all to no one's benefit just because of a slight difference between the hydrant threads of one city and the hose threads of another. Before one city sends away its fire protection to aid a second city the chief should be positive that he will be able to connect to the hydrants and be of some assistance to the city he wished to help.

Standard Thread Adoption Real Solution

While a temporary arrangement of carrying a few adapters for the nearer cities has been found of great value in many cities such an arrangement is unsatisfactory at its best. The only real solution of this vital problem is to have the hydrant and hose threads the same in all cities. In order that every city might have the same thread an arbitrary standard was adopted several years ago and is known as the National Standard. The outside diameter of the hydrant outlets and male hose coupling is 3 1/16" and there are 7½ threads per inch. Great progress has already been made by many of the cities of a number of states in changing their threads to conform to this National Standard. In those states apparatus responding to a call for help from a neighboring city is certain that it can go into action immediately without making the disheartening discovery that the threads will not fit.

In Illinois we have been backward in making this change to the standard thread. Now that so many sections of our great hard road system are being completed the time is ripe to make this change in order to benefit by the generosity of a neighboring city which might send apparatus to save us from a disastrous conflagration.

Use of Standardization Tools

The Illinois Inspection Bureau has been working on this big program of standardization and a number of cities, have made the change already. We were interested in learning that while most of the fire chiefs interviewed were most anxious to accomplish this important work the officials of the same cities were often indifferent to the proposition and apparently did not appreciate its great value.

A definite step which you, Mr. Chief, can take toward putting across standardization in your city and throughout your state is to put this whole situation squarely before your city council at its very first meeting after you return from this convention. You appreciate the tremendous value of standardization and you can put it across with your city council better than any one else in the country.

Do You Get Greatest Efficiency from Apparatus?

Let us suppose that you have been provided with proper fire apparatus and that it is always maintained in perfect condition and that hose couplings have been changed so that you can give and expect assistance from neighboring cities. Have you done everything possible to obtain the greatest efficiency from your fire apparatus? What about your own efficiency as fire fighters? This question is a very direct one but it is a vital one. Can you use the apparatus which you have in the manner which will make it count for the most? Will you and your men function as efficiently during the critical moments of a big fire as you expect your apparatus to do its part? Have you, as Chief, planned just exactly how to use your men and equipment for a fire in any building in your city? Do you as fire fighters know what attack you will be directed to make on a certain building and just what your individual job will be to make the teamwork a success? These are questions that each man must answer for himself. If

(*Continued on page* 321)

The Texas Boys Don't Often Have This Pleasure

The "Sunny South" does sometimes enjoy a real snow storm. The illustrations show the result of the heaviest of these visitations that Austin, Tex., has had in 25 years. Upper, Chief C. L. Woodward, and some of the men of his department, just beginning work on their snow man. Lower, Left, the "statue" in course of construction. Lower, Right, the completed snow man, 14 feet in height and 15 feet in circumference.

Salvage Work in Municipal Fire Departments

Growing Realization of Its Importance—Legitimate Work of Fire Department—Methods and Appliances Used—Protecting Stock Against Damage from Rain or Snow

By CHIEF RALPH J. SCOTT, Fire Department, Los Angeles, Cal.

THE author of this paper is not only a strong advocate of salvage work by municipal fire departments, but has also been eminently successful in inaugurating salvage corps in connection with his command in Los Angeles. His views on the subject are, therefore, of value. The illustrations accompanying this article are included to show just how salvage work is performed in large departments:

To my mind, one of the most encouraging signs of progress among fire departments the country over, is the growing realization of the supreme importance of saving property from destruction. No longer is a good department satisfied with the extinguishment of a fire, if by the process it has by an excessive use of water, or by the unnecessary or injudicious use of tools, damaged or destroyed property which might, under more able direction, have been saved.

Fig. 1. A Recent Chicago Fire, in Which the Top Floor Was Burned Out, Showing Extent of Fire.

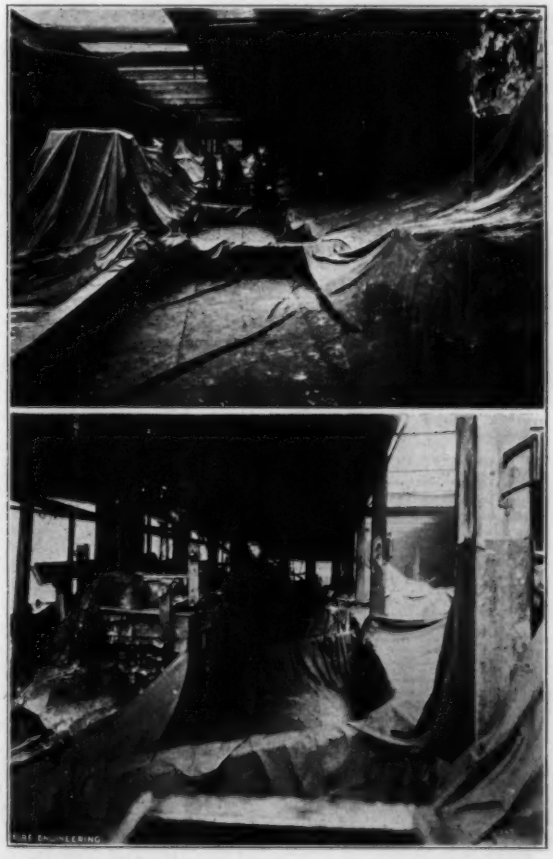
Picture taken the day following fire, when covers had been removed. 345 covers were spread during the fire by six patrols, aided by the Chicago Fire Department. The building was of semi-mill construction, 50 x 150 feet.

I believe that there is no better way of impressing upon the public the fact that their fire department is a vital necessity and worthy of every encouragement and material aid, than to consistently convey this impression of efficiency, men and officers proceeding quietly to work upon arrival at fires, without confusion and lost motion, going into the seat of a fire and extinguishing it without the use of the old-time gallery play. We are no longer satisfied with the confinement of fire to the place of origin, if by intelligent action it is at all possible to save the burning property.

Doubtless, Los Angeles has had an experience comparable to that of many other cities in the securing of one of the newer facilities whereby substantial saving can be made, and whereby important property losses formerly included in fire loss, however actually attributable to water loss, can be avoided and the per capita loss materially lessened. I refer to the business of salvage, which as now practiced in some of the larger departments means the covering of valuable merchandise and chattels with waterproof covers. The effort to secure this service in Los Angeles dates back for nearly twenty years. Previous to the present fire department administration, this effort was mainly concentrated toward the provision of salvage companies by the Underwriters, but observation of results in other cities had not convinced these officials of the wisdom of further development in this line, and efforts were unsuccessful.

Believes Salvage Legitimate Fire Department Work

I believe that the business of salvage is just as legitimately a part of the work of the fire department as is the actual extinguishment of fires. Both are intimately concerned in the saving of life and property, to which service we are dedicated. Hence, upon my appointment to office, I initiated a consistent endeavor to have such service provided as an integral part of the fire department. I was unsuccessful until 1922, when after an intensive campaign, we succeeded in having passed by vote of the people a bond issue providing for $2,500,000 to be expended for fire department improvement and expansion. With



Figs. 2 and 3. Illustrating How Salvage Work was Done at Chicago Fire, Showing Work on the Fire (Top) Floor.

Note, roof has been partly burned away. In both pictures the salvage work has been partly completed, laying of the covers in upper picture being completed on left hand side, to prevent rain or melted snow from draining down to floors below.

Fig. 6. (Upper). First Floor. Entire Stock was Covered and Only Slight Drips Occurred in Various Places. Note Poor Cover Condition and What Would Have Occurred had Water Been Permitted to Reach This Floor. Fig. 7. (Lower). Picture Taken While Men were Making Preparations to Protect Salvaged Stock from Possible Rain or Snow. Heated Building Would Cause Snow to Melt, with Added Damage, if not Removed Immediately. Precaution Proved of Value When Later Storms Occurred. Patrolmen were Detailed on the Occasion of Each Storm to Bale Catch-Alls and Remove Snow.

a portion of this fund there have been provided four regular salvage companies, with a complement of fourteen men each (seven on shift), and in addition, salvage covers are carried on each of our sixteen serial and city service trucks.

Formation of First Company

Our salvage companies are manned by regular officers and firemen, who are on the same working basis and subject to transfer, discipline, etc., exactly the same as any other members of the department. At the outset, we endeavored to select men who appeared particularly well qualified for the work, and here I may state that in the training of this first crew of picked men, our department is particularly indebted to the good offices of Captain J. J. Conway of the Underwriters Salvage Corps of Cincinnati. Upon my urgent request he was sent to this city and gave our men the most careful, competent and complete instructions that would be desired. I may say that any department, while the salvage work is still an innovation, could not do better than to secure the services of this capable man.

Within ten days after the departure of Captain Conway, Los Angeles had two important fires in the commercial district, at both of which salvage covers were used extensively and with very gratifying success. At that time I was very much pleased to report to the National Board and to others, that by the use of our salvage covers we had reduced what might theretofore be called the "normal" loss at these two fires, by a sum exceeding $100,000. This incident brought the fact very forcibly to the attention of our merchants that a new branch of fire department service had been initiated, and since that date, March, 1924, letters from merchants and citizens commending the saving which they had witnessed and experienced by the use of our salvage department, have been common. I can state truly that the department has incurred no criticism, in fact, nothing but praise and commendation since these companies were first placed in service. I would not think of dispensing with our salvage companies; quite the contrary, as soon as finances will permit, I hope that Los Angeles will have more of them.

Substantial Insurance Premium Reduction Follows

Naturally, it is to be expected that the taxpayers will not look with favor upon any innovation unless there is a reasonable expectation of equivalent return. It was the expectation that as a recognition of the value of this salvage service, that a revision in insurance premium rates would be the immediate result. This in fact has happened, and upon risks subject to this protection a substantial reduction in rates has already been made, resulting in the saving of hundreds of thousands of dollars to the purchasers of this class of insurance protection. I may say therefore that the principle of salvage has been completely justified in this city, and I know of no reason why a similar experience could not be enjoyed by any fire department where it is physically possible to employ this means.

Why Fire Departments Should Do Salvage Work

Just a word at this point as to why I believe it most satisfactory for the fire department itself to engage in the business

(*Continued on page 317*)

Fig. 4. (Left). Section of Third Floor, Water May Still be Noted on Beams. An Effort was Made on the Upper Floors to Divert the Water and Hold in Catch-Alls. Final Stand was Made Successfully on This Floor. Fig. 5 (Right). Second Floor. Entire Stock was Covered. However, Efforts Made on Third Floor Prevented Large Amounts of Water from Striking Covered Stock. Note Ideal Cover Conditions and Stock Skidded from Floor.

Fire Spreads as Small Streams are Used

Failure to Employ Heavy Streams Permits Flare to Ignite Frame Sash and Door Factory—How Fire Was Fought

THE fire described in this article of the series on Administration is one which occurred in a western city.

The fire is of particular interest in that it involved a chemical plant in which were stored chemicals both extremely dangerous from the standpoint of life as well as property destruction.

The population of the city in which the fire occurred is approximately 250,000. The water supply is excellent, particularly in the neighborhood of the fire, there being large size mains on all four streets surrounding the fire area as well as a liberal supply of hydrants.

Pressure at the hydrants in this particular location ranged around 50 pounds, which pressure fluctuated very little during the course of the fire.

Description of Plant and Surrounding Exposures

Fig. 1 shows the chemical plant in which the fire originated as well as the buildings to the west of the plant.

Fig. 2 shows a layout of the fire area including location of hydrants, and exposure buildings.

Referring to Fig. 2 building A was a two story brick building occupied as a laboratory.

On the ground floor were offices on the Smith Street side while to the rear of this building on the first floor were laboratories and chemical storage. Included in the chemicals stored were about 20 barrels of ammonium nitrate.

On the second floor of building A were located the various appliances used in performing chemical experiments, such as are commonly found in laboratories of this type.

Building B was occupied by apparatus for chemical reduction, including stills, ovens and other devices. Building B was of two stories, brick construction. Buildings A and B were connected by a fire door which was held open by a fusible link and which promptly closed after the start of the fire in building A but not until the fire had passed through and entered building B.

Building C was used entirely for storage, a large part of the first floor and almost the entire second floor being filled with barrels of chlorate of potash.

Building D was used as a chemical factory and contained among other things quite an assortment of dangerous acids, including nitric acid, sulphuric acid, picric acid, and also two containers of potassium cyanide on the second floor at the rear.

The occupancy of the surrounding buildings are indicated in Fig. 2. Possibly the most dangerous of all exposures was the sash and door plant of two story frame construction directly across Wyburn Avenue from the fire.

To the rear of the chemical establishment was a three story shoe manufacturing plant made up of a number of separate buildings and provided with a fire wall only bordering on the chemical plant as shown in Fig. 2.

The Fire Department

The fire department in this city includes the following:

Twelve engine companies, seven of which are equipped with triple combination automobile pumping engines and 5 with tractorized steamers, each of these latter companies having an automobile hose car equipped with a deck gun. (There are two tractorized steamers in reserve.)

Four hose companies, two of them having deck gun and all being equipped with combination chemical and hose car; 10 ladder companies, two being equipped with aerial trucks and 8 with city service trucks; one water tower company.

The response to alarms in the particular section in which this fire occurred is as follows: First alarm: 3 engine companies, 1 hose company and 2 ladder companies.

Second alarm: 2 engine companies, 1 hose company and 2 ladder companies.

Third alarm: 3 engine companies and 1 ladder company.

The balance of the apparatus is "special called," including the water tower company.

To simplify the explanation in the following paragraphs the numbers of the companies responding on the various alarms will be taken as follows:

FIRST ALARM:

Engine Co. No. 1—triple combination truck.

Engine Co. No. 2—triple combination truck.

Engine Co. No. 3—tractorized steamer with hose car having deck gun.

Hose Co. No. 1—having automobile combination chemical and hose car with deck gun.

Ladder Co. No. 1—equipped with aerial ladder truck.

Ladder Co. No. 2—equipped with city service truck.

SECOND ALARM:

Engine Co. No. 4—equipped with tractorized steamer and having deck gun.

Engine Co. No. 5—triple combination car.

Hose Co. No. 2—automobile combination chemical and hose car with deck gun.

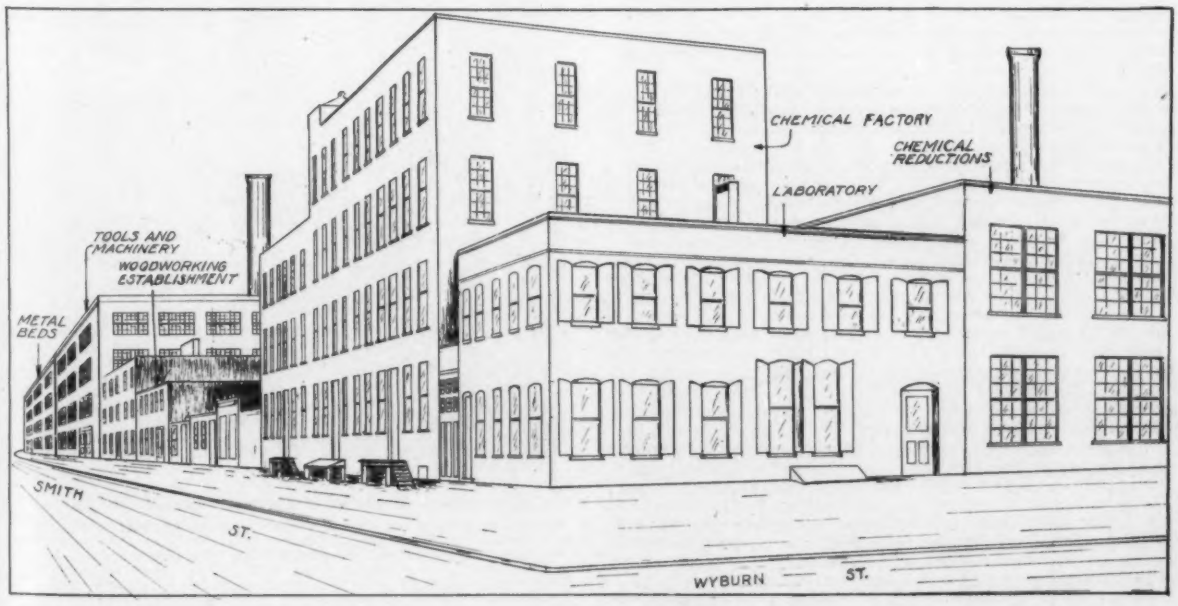


Fig. 1.

Ladder Co. No. 3—city service truck.
Ladder Co. No. 4—city service truck.

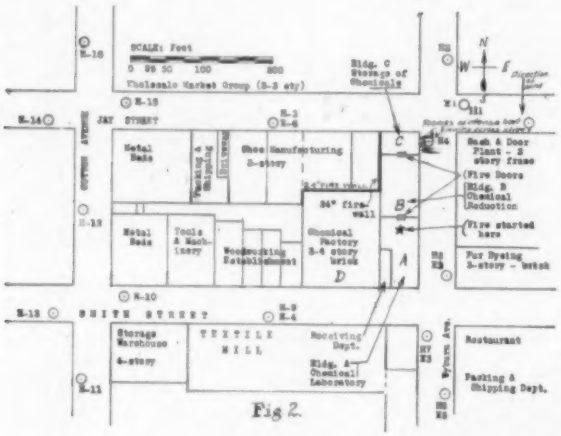
THIRD ALARM:

Engine Co. No. 6—tractorized steamer with automobile hose wagon having deck gun.
Engine Co. No. 7—tractorized steamer with automobile hose wagon having deck gun.
Engine Co. No. 8—triple combination car.
Ladder Co. No. 5—city service truck.

The Fire

The fire started at 3 o'clock on a summer afternoon at the point marked by a star in building A. At the time of the fire a strong wind was blowing from the north.

The exact cause of the explosion was never known owing to



the fact that the men working at that point of the plant and engaged in performing the work died without recovering consciousness.

But other workmen in the plant stated that immediately after the explosion, fire was burning in building B although the fire door between buildings A and B had closed in the meantime.

An attempt was made to extinguish the fire with hand extinguishers but due to the fact that there were quite a number of empty barrels present and that the fire seemed to burn with exceeding intensity nothing was accomplished.

In the meantime an alarm had been transmitted by fire alarm box located directly across the street from building A and until the arrival of the department nothing was done to check the fire.

The employees were ordered out of the buildings at once, after closing what doors they could in the face of the rapidly spreading fire.

When the department arrived building B was fully involved on the ground floor and fire had extended to the second floor

Fire had also entered building C and the fire doors had closed thereafter.

Engine No. 1 stopped at hydrant No. 1 and stretched in a single line to building B. This building was taken rather than building C as the fire had gained considerable proportions and it was thought that due to the large open area, more effective work could be done.

Engine 2 was located at hydrant No. 6 and stretched a single line into building A, using a 1¼ inch tip and made quick work against the fire in the laboratory. This stream kept in operation in building A until several of the men collapsed from gas and the company had to retreat. Gas had apparently gone to the upper floor as well; there was an open stairway leading to the upper floor from the ground floor in building A.

It was subsequently discovered that the large quantities of ammonium nitrate stored in building A was giving off what is commonly known as "laughing gas."

The remaining members of this company continued to operate from the street into building A.

Engine 3 connected to hydrant No. 7 and stretched a single line by ladder to the second floor of building A, operating from the ladder and taking no chance on going into the building. Fire at this time was burning quite briskly in on the second floor of building A and it required the attention of this line (using 1¼ inch nozzle) to stay the progress of the fire.

Hose Co. No. 1 upon rolling in stretched a second line from engine 1 at hydrant No. 1 into building B, going by ladder to the second floor which was now well ablaze.

The Battalion Chief in charge of the first alarm assignment at this time concluded that the task was too much for the first alarm apparatus and transmitted a second alarm.

Shortly after transmitting this alarm a great flare occurred from building C, sending white hot flames out onto the street. So intense was the heat that the men operating the two lines from engine Co. No. 1 had to drop their posts and retreat to safety. This threw the two lines out of service temporarily.

Members of the hose company withdrew the lines by pulling them back toward the engine, although the heat was so intense that it was almost unbearable to the men at engine No. 3. The lines however were eventually brought back to a point of safety and the men operating these lines rejoined their company and put the lines in operation to cover the sash and door factory as well as wet down as best they might on the fire.

The great heat, making it necessary for the men to operate at a distance, cut down the effectiveness of the 1¼ inch streams to such a point that they accomplished little in covering the exposures.

As a matter of fact, before the arrival of any of the second alarm companies the sash and door factory was burning at several points along its front.

Members of Ladder Cos. Nos. 1 and 2 opened up for the fire department at the various points desired and also placed ladders. Just before the arrival of the second alarm companies members of the ladder companies assisted in stretching lines from engine Co. No. 2 to operate in covering the sash and door factory and also wet down the front of building B.

Upon the arrival of engine Co. No. 4 on the second alarm, fire had gone through building B and both floors were now fully involved; both floors of building C were also fully involved as also was building A.

The fire chief arrived about the same time as engine Co. No. 4 and took command of the situation.

(*Continued on page* 306)

Pyromaniac Thought Responsible for N. Y. Fire

The fire department officials believe that a pyromaniac was responsible for the two-alarm fire at Thirty-Sixth street, New York City. The apartment building was being wrecked to make way for a new office building. It was feared for a time that sparks would settle on the public school building across the street and the children were lead out of the school by the teachers. Note the old method of leading up a line of hose through a well of fire escapes. The new method as now being taught to the New York City probationary firemen is to raise the hose up on the outside of the fire escapes.

COURSE OF INSTRUCTION IN FIRE PROTECTION

AS GIVEN AT THE UNIVERSITY OF ILLINOIS

EXIT FACILITIES

By JOHN PLANT,
Fire Prevention Bureau, Chicago

That the ordinary ladder and balcony open fire escape is not only a makeshift, but an exceedingly dangerous one at that, will hardly be denied. The following paper, forming part of the University of Illinois Course in Fire Prevention, suggests a substitute that avoids all of the hazards to human life contained in the ladder escape and at the same time acts as a fire retardant in preventing the rapid spread from one floor to another, when installed in the form of an enclosed stairway:

The subject of Exit Facilities might be considered in different ways. We will start with the Indian wigwam. When the Indian had his wigwam or the settler had his hut, exit facilities were everywhere. If anything happened inside the room all he had to do was to roll out under the canvas and he was out. As civilization progressed and ground became more valuable men started building structures higher rather than wider and longer. Thus arose the necessity of getting people into the building. That is the predominant idea of the theater man or the merchant, or perhaps everyone, except those interested in safety,—to get the people in first and then they don't care particularly whether they can get out or not, because there is never going to be a fire. I have in mind the ladder fire escape. Why ask any human being other than an able-bodied fireman or circus acrobat to perform on that in zero weather with smoke and gas issuing from the building?

The Outside Ladder Fire Escape

The architect works very hard and spends many sleepless nights designing a building so it will be serviceable and useful, and so that the proportions will be right. He finds the height is out of proportion with the width and the ornamental scrolls over the doors will be out of place; but after it is all done he comes along and tacks on a tangled mass of iron in the shape of a ladder or stairway and calls it a fire escape. This is a notice to the whole world that there is danger in the building and that someone may have to use that exit to get out of the building in order to save his life or limbs.

A fire escape is good sometimes as a means of attack for the firemen. They can scramble up on the fire escape and put streams of water on the burning material, but in many cases it is no means of escape for the occupants.

When people build a building, regardless of the type of construction, and then fill the inside of the building with great quantities of combustible contents, with large undivided areas, fires will start in the most unlooked-for places and from the most mysterious causes, and spread with the rapidity that only men who have been trained to race away from fire know how great. With the above fact in mind something other than a ladder fire escape or stairway fire escape should be counted on as a means of egress from a burning building.

Hard to Convince Architects

But it is a most difficult thing to sell this idea to architects. They cannot get over the idea of building a building and tacking a fire escape on it. I will cite an example. In Chicago, on the northwest corner of Randolph and Madison Streets, is a twenty-two-story library building. They were not pressed for money because in 1891 Doctor Crerar died and left a fortune of about three million dollars to found a library. Today the resources available have increased very much. They built a most beautiful so-called fireproof building. When they got the twenty or twenty-two-story building constructed, after the architect wasted many hours of sleep and perhaps acquired grey hairs designing correct proportions, they tacked on two masses of iron bars called a fire escape. In lieu of this iron stairway fire escape, which will rust and require scrapings and paintings and thus stain the beautiful stonework on the front of the building, a new idea in exit facilities could have been used on the building. The additional expense would not have been great and cost was not troubling the builders.

The Philadelphia Smoke-Proof Stair Tower

This new idea is known as the Philadelphia smoke-proof stair tower. We will take the outside wall of a building; we will count a partition as the other outside wall; we would bring a brick wall to this column and a brick wall straight through; leave out the window and about half that space would be the Philadelphia smoke-proof tower. Thus your stairway is entirely surrounded with a twelve-inch brick or concrete wall. In order to get in that stairway you must leave the building. The wall comes out on the back porch, if you please, and then into your stair tower.

I have been able to sell that idea to several building contractors and architects up north. The enclosed stair tower is not required by law. I would have a difficult time selling it to the law makers. But we have better than a fire escape in the Philadelphia smoke-proof stair tower. Regardless of what happens within the building, that stairway is one hundred per cent efficient as a means of escape for the occupants above. Once off of one floor you will descend through the stairway without leaving the stair tower until discharged into the alley or street. That sort of a stairway can be completely worked out and incorporated within the original walls of the building.

Some Examples of Fire with Loss of Life

We have had many fires in which there was a loss of life. I know the experience of this year alone, in three fires, one in which there were nine lives lost in a four-story building having two flats on the first floor, two flats on the second floor, two flats on the third floor and two flats on the fourth floor, with one open stairway and no combustible contents in the building other than the furniture with which the people carried on their domestic avocation. Nothing was in the corridors perhaps but a baby carriage. The stairway was of wood, the banister was wood, there was a rug on the stairs and corridors. If a fire starts on the first floor it immediately transforms the stairway into a roaring mass of flames and before the fire department is there the stairway has burned away and fallen into the basement. There was no fire in the basement, but the stairway collapsed and the people on the upper floors never had a chance to leave their rooms to get in the corridor.

We had a case in the hospital for the blind in Chicago. One man lost his life who had had an operation performed on his eyes the previous day. The reason only one man lost his life was because there was only one man sleeping in the building. The whole side of the building was covered with an iron platform with access to a very fine stairway fire escape. What was the cause of that loss of life? The same old open stairway idea. The stairway started at the basement, with no inclosure whatsoever, and within 50 feet of that hospital were two companies of firemen with the finest kind of equipment, a pumper costing $16,000, an 85-foot aerial ladder, and twenty as fine men as you can wish to see at any fire. No one knew the fire started, but in the twinkle of an eye it started in the basement, and went to the open stairway and traveled upward, and the loss of life occurred. The inside stairway was 48 inches wide. Every window on one side of the building had access to a platform fire escape and yet that fire came up and snuffed out the life of the poor blind man. The fire department made a good response and put out the fire, but could not save the life.

In buildings of that kind we have taken it upon ourselves to try to sell the idea of enclosing the stairway so it will be not only an exit facility when the emergency arises, but that the fire will be confined to the floor where it starts for a little while at least.

(To be continued)

Macon Firemen Dismissed for Incompetency

Three firemen were recently dismissed from the fire department in Macon, Ga., by Chief Walter S. Blanton, under direction of the Fire Committee of the City Council. The men were arraigned before the committee charged by Chief Blanton with incompetency, insubordination and lack of energy in the performance of duty. In several specific instances they were accused of refusing to respond to fire alarms, and taking part in fighting fires. The Fire Committee was represented at the trial by the City Attorney, but the accused were without counsel, and offered no defense except their personal statements, which did not carry weight with the city authorities.

JOHN A. STULB.

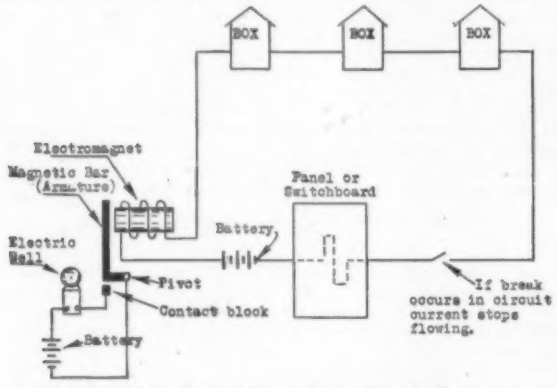
Uncertainty of Telephone Fire Alarms

Because the telephone is such a familiar and convenient device it is quite natural to turn to it in case of fire. Telephoning alarms, however, is a dangerous practice.

The fire alarm telegraph, operating on a "closed" circuit, automatically gives warning when it goes out of order. Not so the telephone, which operates on an "open" circuit. You may lift the receiver from the hook to report a fire and wait in vain for central to answer if the phone happens to be "out," with nothing to indicate that such is the case.

The sketch herewith shows diagrammatically how this operates.

While current is flowing through the circuit from the battery A it energizes the electrical magnet which holds the armature tightly against it. Just as soon as there is a break in the circuit such as at the point indicated C then current ceases to



Showing How Closed Fire Alarm Circuit Operates.

flow and the electrical magnet becomes demagnetized. When this occurs the armature due to its weight drops away from the electric magnet and in dropping away closes the circuit on the contact block indicated in the diagram. As soon as this second circuit is closed current connected with the bell flows in the closed circuit and sets the bell aringing indicating that there is a break somewhere in the fire alarm circuit. While this is not the exact mechanism employed, still it gives an idea of what occurs when a break occurs in a closed circuit.

The operator may be slow in responding or neglect your signal entirely. In the excitement the location of the fire may be incorrectly given or repeated and there is no assurance that a telephoned alarm will ever reach the engine house. In the fatal Scobey Hospital fire in Boston an alarm was telephoned. While recorded at the telephone central office, there is no record of its receipt at fire alarm headquarters. In many cities fewer pieces of fire apparatus respond to a telephone alarm than to a box alarm.

While the personnel of telephone companies are earnestly cooperating with the fire service and are vitally interested in seeing that the telephone always functions properly, they recognize that it is not primarily an alarm device. In a Fire Prevention Week message the manager of the telephone company in San Francisco warned against the use of the telephone in case of fire. He suggested that, if an alarm box was not accessible, a neighbor's telephone be used in preference to the one in the burning house, which might be put out of order by the fire.

The telephone is an excellent auxiliary, especially in reporting brush, grass and minor chimney fires, but it is an unreliable fire alarm for a serious fire. There is no harm in telephoning an alarm, but someone should go to the box.

Amplifying this advice, two cases may be mentioned. There was a fire at the home of Albert H. Eichorn, 850 Newton street, Brookline, Mass, recently. His telephone was in the Center Newton Exchange. He called the telephone operator and asked that the Chestnut Hill fire department be sent. The operator very naturally advised the Newton fire department that there was a fire on Newton street in Newton, instead of Newton street, Brookline, which was a mile and a half away. Finding no fire on his arrival there, the chief sent his apparatus to Newton street, Brookline. Finding the fire here, he notified the Brookline fire department. The delay occasioned the loss of $25,000.

A fire broke out recently at the home of Mrs. C. Specht, in Elizabeth, N. J. She called the Cranford fire department on the phone, reporting a fire in Specht's place on Newark avenue. The Cranford firemen went to Specht's place on North avenue, but found no fire.

FLUE GAS STOPS DUST EXPLOSIONS

Department of Agriculture Has Equipped Mill to Demonstrate Method—Important to Prevent Preliminary Explosions

ENGINEERS of the United States Department of Agriculture have erected a feed-grinding mill at the experimental farm, Arlington, Va., to demonstrate the practicability of using inert gas from boiler flues for preventing dust explosions. A regular feed-grinding unit for grinding oat hulls has been installed, and a pipe line from the power house brings in the flue gas.

Many dust explosions in feed grinding mills originate at the point where the grain enters the grinding machinery. They are due to the presence of dust and its ignition by sparks which are often caused by such foreign materials as pebbles or pieces of metal coming in contact with the steel grinding plates. If dust is present a small explosion at the grinder may spread in successive explosions of increasing size throughout the milling system. Consequently, it is extremely important to prevent these preliminary explosions.

Dust explosions can occur only when sufficient oxygen is present and other conditions are favorable. Under normal conditions the atmosphere contains approximately 21 per cent oxygen. Tests have shown that explosions can not occur in an atmosphere containing less than 13 per cent oxygen. By the introduction of flue gas, or carbon dioxide, in sufficient quantity explosions will be prevented.

Numerous other gases could be used to create conditions unfavorable for explosions, but flue gas has the advantages of being economical and continuously available. The only cost for the use of gas from the boiler flues would be for installing a pipe line.

In the experimental mill, the efficiency of the inert gas method is easily demonstrated. A continuous means of ignition is maintained by the use of an electric arc. When the gas is cut off sufficiently to permit the oxygen content of the air to increase, small explosions result. A vent opening to the outside of the building prevents damage to the mill.

Although this mill is equipped for grinding oat hulls for stock feed, the principles involved in preventing explosions by means of inert gas are applicable to mills that grind many other materials. The department is anxious that mill owners, operators, and others interested in dust-explosion prevention visit the experimental mill, and observe some of the tests, both with and without the inert gas present in the system. In this way operators will have an opportunity to observe the efficiency of inert gas as a means of preventing explosions in grinding equipment and at the same time study the possibility of using inert gas in their own plants. Arrangements may be made with the department for observing the tests, or information on any particular phase of the use of inert gas as a means of preventing explosions may be obtained by writing to the Bureau fo Chemistry at Washington, D. C.

Flour for the Needy of Tacoma, Wash.

Members of city's fire department delivering this food to destitute families. Illustration shows truck load leaving fire station.

North Tarrytown, N. Y., Has New Ahrens-Fox—The village of North Tarrytown, N. Y., has received its new Ahrens-Fox 750-gallon combination car.

Wife of Chief Sam Short of Oakland, Dead—Mrs. Sam Short, wife of Chief Sam Short of Oakland, Cal., fire department and president of the pacific Coast Fire Chiefs Association died in that city on February 20.

WITH THE EDITOR

Checking Fire Department Contributions

Mayor James J. Walker of New York City has issued an order which has been retransmitted by Fire Commissioner Thomas J. Drennan to the men in the department. It is to the effect that the taking up of collections for any purpose, other than great public charities as may from time to time ask the permission of the department to receive voluntary contributions, be discontinued.

This move was necessitated through the large number of collections being taken up to purchase gifts for individuals, for needy persons, and similar purposes.

This is an excellent move and well justified. Members of the department usually have all they can stand in the way of expense in maintaining their homes, and it is an imposition to require countless contributions to various movements, which, while deserving support, might well receive support from individuals better fixed financially to be of service.

The idea of assessing the members of a company or of a department for innumerable gifts, charities, or for the support of charitable movements is entirely unwarranted and should be stopped without further ado.

Fire Patrol—What Is It?

When is a volunteer fire company not a fire company?

Apparently, when the Firemen's Association of the State of New York says it isn't.

At least that is the Nyack Fire Patrol Company of Nyack, N. Y. has so far learned.

This patrol company, which functions in just the same manner as paid fire department salvage companies, has been denied the privilege of exemption from jury duty granted volunteer firemen, because the Law Committee of the State Association is not quite sure what the duties of the members of this company are.

To quote the law of the state on exempt firemen: "An exempt volunteer fireman is hereby declared to be a person who as a member of a volunteer fire company duly organized under the law of the state of New York shall have at any time after attaining the age of eighteen years faithfully and actually performed service in the protection of life and property from fire within the territory immediately protected by the company of which he is a member . . . . ."

It was on this law that the Nyack Fire Patrol ruling was based.

The Nyack Fire Patrol has been duly organized as a volunteer fire company. And yet it is not a volunteer fire company.

It was organized with the object of protecting life and property against fire, as required by the laws of the state. And yet it is not a volunteer fire company.

It operates at all fires the same as any other fire company in saving property; it saves life where necessary; it raises its own funds for the maintenance of the company; it buys its own apparatus; its men give their time free of charge as is required of volunteer firemen; but still it isn't a volunteer fire company.

It is suggested that the state association when ruling on such volunteer companies in the future be guided by the status of these companies in paid departments. And for their information attention is called to the Los Angeles Fire Department wherein two salvage companies are maintained by the fire department. The members of these companies are firemen in every respect, being required to take the same examinations as other firemen, being protected by the same Civil Service rules, and receiving the same pay.

It is an injustice to the Nyack Fire Patrol to deny them the privileges of a volunteer company. The state association should reconsider its action and extend to the Nyack Fire Patrol those privileges which it justly earns.

Political Interference Still Persists

During the past few weeks three instances of political interference with the authority of the fire chief have been noted.

In two of these cases politicians came to the defense of subordinates who had violated the rules and regulations of the department and used every effort to embarrass the chief.

In the third instance a local fire department organization attempted to dictate the method of electing chief officers.

In each case, though the problem was settled to the satisfaction of those who stood by the chief, considerable ill feeling was engendered, and which will likely develop sooner or later into organized antagonism toward the department head.

It is unfortunate that politicians must interfere in the administration of fire department matters.

And it is still more discouraging that in such interference they only see a selfish objective, knowing neither the duties nor responsibilities of the chief and caring less about them.

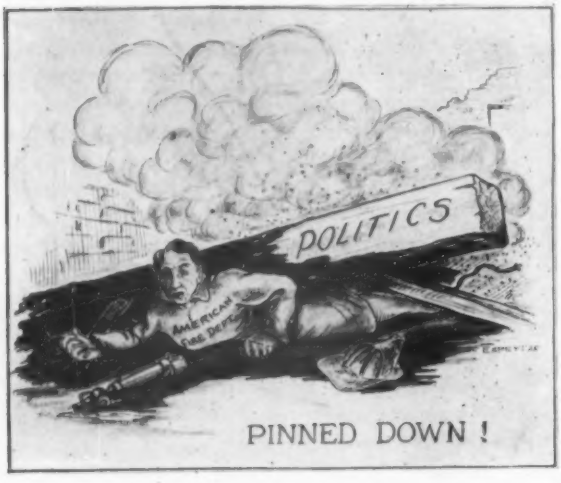
The petty politician who follows these tactics is no better than the "sidewalk fire chief" who tries to tell the fire department how to fight a fire.

It's easy to offer suggestions, no matter how disastrous they may prove, as long as the author of these

suggestions is shielded behind the responsibility of the chief for any damage that may result.

There is one redeeming feature about the situation, and that is the tendency of fire departments to gradually wean themselves away from political interference.

The cartoon herewith, from the pen of Art Espey



of the Elmira, N. Y., Fire Department, well illustrates the position of politics in relation to the department.

Deserved Recognition The City Commission of Albany, Georgia, one of the rapidly growing southern cities, at a recent meeting increased the salary of Chief Brosnan 50% over what it was last year.

In making this increase the commission considered what the fire department had accomplished during the past year under Chief Brosnan's leadership and came to the conclusion that the work in fire prevention had increased the efficiency of the department far in advance of the great increase in salary which the chief has been granted.

And the recognition of the work of Chief Brosnan in the department is not confined to the city authorities only. The Underwriters have recently granted Albany the lowest fire insurance rates in Georgia, which confirms the judgment of the city commission.

It is a mistake for a city government to operate on the theory that it is economy to place in positions of responsibility those who will accept them for whatever salaries or wages the government is willing to pay. It is a theory which the most successful business concerns in America have emphatically rejected, and city governments do well to take a hint from "big business."

Fiddling Out Fires A vaudeville artist who surprised some Boston citizens a short time ago by extinguishing fire with musical vibrations from a violin bow and tuning fork has arrived in New York and is again getting a considerable amount of publicity by his feats.

In his demonstrations he extinguishes a gas flame placed at the end of a pipe the other end of which is in close proximity to a tuning fork which is set in vibration with a violin bow. This demonstration is probably familiar to nine-tenths of all engineering students who have experimented with sound in physical laboratories.

But for the public it possesses considerable mystery and has resulted in a great deal of conjecture as to the possibilities of sound in extinguishing fire.

Some individuals with good imaginations have even suggested the application of this principle toward fighting fires by fire departments.

However, the capabilities of sound as an extinguisher of fire are indeed limited. It is true, as noted above, that a small gas flame can be put out with vibrations from a musical instrument, but when larger fires are encountered it is entirely a different story. Here blazes of various sizes and constantly varying in dimensions would not lend themselves readily to extinguishment by musical vibrations.

As a matter of fact this principle is likely to remain in the realm of experimental information.

Even though the theory of music extinguishing fire may never be put to practical use in fire departments, it may nevertheless explain why Nero sat and fiddled while Rome burned.

FIRE CHIEF TENDERS RESIGNATION; BATTALION CHIEF TAKES LIFE

Friction and Dissention in City Government and Department the Cause —Subordinate Officer Commits Suicide

CLARENCE CRAW, chief of the Long Beach, Cal., fire department, has applied for retirement on pension. This was the result of friction and dissension among city officials and the officers of the fire department. Action of the City Council on the request and the appointment of Chief Craw's successor, has not been announced.

Chief Craw joined the Long Beach department more than twenty years ago, being made the department head ten years ago upon the death of the then Chief Shrewsbury. Battalion Chief John B. Buchanan, a veteran of the department, also announces his intention to apply for a pension, giving ill health as the cause of his action. Hugh R. Etzell, fire prevention chief, is another who expresses himself as about to leave the fire department. Perhaps the most important feature of the municipal upheaval is the severance of his connection with the city firemen's pension fund of Manager-elect Charles Henderson. It is the intention of the City Council to fill up the ranks of the commissioned officers as soon as possible.

Battalion Chief Jay B. Taylor committed suicide recently because of the constant friction among officers of the department. His body was found in one of the city parks to which he had driven alone in his automobile after attending a meeting with Chief Clarence Craw and other members of the fire department. Taylor had been missing for about ten hours, and not appearing for duty a hunting party went out to look for him. He had left a letter addressed to his wife and family, the contents of which left no doubt that it was a case of self-destruction. According to facts brought out, there had been considerable dissension going on in the department in which Taylor played an important part, but no one mistrusted that he had been overwrought by the incident. In his letter he declared that he had been "double-crossed" and that he had been guilty of "double-crossing" others in the department, and intimated that he had suffered remorse for personal acts which had so preyed upon his mind that destruction by his own hand was the only relief. Taylor, who is survived by a widow and several children, had been a member of the Long Beach fire department for more than twenty years, and was eligible to retirement on pension.

QUESTIONS AND ANSWERS

Conducted by FRED SHEPPERD, B. Sc., M. E.

"He that questioneth much shall learn much"—BACON

NOTE—Readers of FIRE ENGINEERING are invited to send in questions, which will be answered in the order received. Names are omitted from questions unless otherwise specified.

Pressure at Top of Closed Standpipe

To the Editor:

We have a hydraulic problem that we wish you would enlighten us on. There seems to be a difference of opinion as to the answer. I do not think it is covered in your book "Simplified Fire Department Hydraulics."

The question is as follows: A company is testing a standpipe with all openings closed. There is 300 feet of 2½-inch hose laid from the engine to the standpipe. There is 300 pounds pressure on the engine. What is the pressure at the top of the standpipe which is 70 feet high?

We would like your answer as early as possible.

Cordially yours,

W. F. A.
Seattle, Wash.

Answer: As there is no opening in the standpipe, or in other words as all outlets are closed, there will be no flow of water. In this case there will be no loss of pressure due to friction and the only thing you have to consider is the back pressure due to the elevation of the standpipe. In addition to the static pressure you would have the additional pressure given by the engine. First, let us see what the static pressure would be equal to; 70 feet elevation would represent 70 x 0.434 or 30.38 pounds. This is the pressure which the water in the standpipe alone would exert at the base of the standpipe or at the level of the engine approximately. But the engine is delivering a pressure against the water in the standpipe of 300 pounds. Only 30.38 pounds of this is required to overcome the static pressure in the standpipe. The pressure at the top then, due to the 300 pounds engine pressure, would be 300 minus 30.38, or 269.62 pounds. This is the pressure at the top of the standpipe in pounds per square inch.

Methods of Solving Problems

To the Editor:

I have studied and read through your book "Simplified Fire Department Hydraulics" several times and in the following problem I would like to know which form is considered correct for working out such problems at a Civil Service Examination.

I have memorized about 60 different constants and 20 different factors used in reducing a line of hose to its equivalent in 2½ inch hose.

In the enclosed example you will readily see the three forms by which I figure out the problem. Now in your book you generally reduce all lines and sizes to their equal of a 2½ inch line.

In this particular problem the specified forms "A" and "B" solve out to give the same engine pressure. By using in form "C" the constant for the three 3-inch lines, there is a difference of approximately 8 pounds in the engine pressure.

If all lines should be reduced to their equal in 2½ inch hose what is the use or need of keeping about 60 different constants in mind.

I have made up and figured out about 60 to 100 different examples and by using the constant for the size of hose and also size of nozzle, it always solves out less than when I first reduce line or lines to equal that of a 2½ inch line.

Will greatly appreciate your advice as to the correct form to use when solving problems of this type.

Respectfully yours,

WALTER KORMANN, Fire Dept.,
Boston, Mass.

Example. Three 3-inch lines, each line is 400 feet long, are siamesed to a deck pipe having 1¾ inch tip and a nozzle pressure of 110 pounds.

Find the engine pressure?

Form A.—Reducing to 3 2½ inch lines.

400 divided by 2.6 (factor for changing 3" to 2½") equals 154 feet of 2½ inch hose. 154 divided by 50 (number of feet in each length of hose) equals 3.08 lengths of 2½ inch hose. .115 (K for 3 lines of 2½ inch hose equipped with 1¾" nozzle) multiplied by 3.08 equals .35420 plus 1.1 multiplied by 110 (nozzle pressure) equals 159.96 or 160 pounds approximately.

Form B.—Reducing total to single line of 2½ inch hose; 400 divided by 20.4 (factor for reducing 3 lines of 3 inch hose to single line of 2½ inch) equals 19.6 feet of 2½ inch hose; 19.6 divided by 50 equals .392 lengths of 2½ inch hose .907 (K for single line of 2½" hose with 1¾" nozzle) multiplied by .392 equals .355544. .355544 plus 1.1 is 1.455544 multiplied by 110 (nozzle pressure) equals 160.1 pounds.

Form C.—Using K for three 3 inch lines. .035 (K for three 3" hose) multiplied by 8 (number of lengths) is .280; .280 plus 1.1 multiplied by 110 (nozzle pressure) solves to 151.8 or 152 pounds approximately.

Answer. All three methods you state give precisely the same results, making allowances for slight differences in the factors. The writer prefers the method of reducing all lines to a single line of 2½ inch hose and then working the problem out. This eliminates remembering a lot of factors as you have discovered.

It is far simpler to work on the basis of a single line of 2½ inch hose for then it is only necessary to recall or to remember the values of K for the various sizes of nozzles on 2½ inch hose, which eliminates the memory of around 20 values of K.

Turn Ladder Before Hoisting

In the January 25th issue of FIRE ENGINEERING in answer to a question, the method of hoisting a 25-foot ladder to the roof of a three-story building was given. In connection therewith, the following letter was received from Edward F. McNally of the Hartford, Connecticut, Fire Department.

Captain McNally's letter is printed in full because it contains points which it is believed will be of interest to readers of this journal.

"To the Editor: The answer you gave to question No. 8, relative to hoisting a 25-foot ladder to the roof of a three-story building, published on page 86 of your January 25th issue of FIRE ENGINEERING, is the correct method when ladder is placed against the building. Your answer states that the ladder is placed on the ground with top or peak of ladder toward the building. In this case it is necessary to turn the ladder over on the ground after the ladder hitch is completed. The purpose of doing this is to have the rope under the ladder so when the men on the roof start pulling on the rope they lift the peak immediately. If ladder is not turned over and the order is given to hoist, the peak of ladder will be drawn toward building and possibly damage ladder or break valuable plate glass windows.

"The progress of hoisting ladder to roof without turning the ladder over is also hindered by the peak of ladder getting caught under window ledges, and other projections.

"Respectfully,
"EDW. F. MCNALLY,
"Capt. Engine Co. No. 8."

Lay Large Hose Near Plug

To the Editor:

In your December issue, page 252, Answer 4, you do not mean to state that you would lay 3-inch hose from the fire and 2½-inch hose near the hydrant as the friction in the smaller hose is much greater, do you?

Sincerely yours,

GEO. F. TOWLE.

Answer: For the benefit of our readers who did not see this question it is reprinted below with the answer thereto.

Q. What precautions should be used in removing the hose from the tender?

Answer: Feed off hose in single line and do not push off portions of folds; do not take off more hose than is necessary for operation. Estimate the amount of hose required and remove from the wagon. Where both 3-inch and 2½-inch hose is on the wagon and the stretch is comparatively long, lay in 3-inch hose near the fire and finish up the line with 2½-inch.

Possibly the answer above does not clearly express the operation. As the car is rolling in toward the fire 3-inch hose is pulled off until the car gets near to fire, then the line is finished up with 2½-inch hose. This may be understood from the

statement "lay in 3-inch hose to fire" as given in the original answer. The sole object of finishing up with 2½-inch hose at the fire is to provide a line which is more flexible than the 3-inch for operating at the fire.

Cleveland Questions and Answers

The following are questions asked by J. E. T., Cleveland, Ohio, and answers thereto, continued from last issue:

4. What precautions would you take and what methods would you use at a church steeple fire?

5. Assuming that you are a captain and in charge of a steamer company that is responding on a still alarm and find a three-story building burning and the whole second floor in flames, with people hanging out of the windows on the third floor, explain your actions from the time that you arrive at same.

6. What do you consider the proper method of taking care of hose when in use, and when not in use.

Answer 4. The chief precautions to take in operating at a church steeple fire is to prevent injury to men through the collapse of the tower and the falling of bells which may be suspended in the tower. Fire travels quickly upward in church steeples due to their hollow construction, and once they are involved it is difficult to extinguish the fire therein. Collapse may be looked for sooner or later. If the fire has started below the bells in the tower then early collapse may be looked for. Use heavy streams with high pressure to secure the range, but keep men out of danger zone in the event that there is likelihood of tower and steeple collapsing.

Answer 5. Question does not give sufficient information to determine the size of the fire or the amount of property at risk. It will be assumed, however, that the extent of the building and the progress of the fire will warrant a third alarm.

Instantly upon rolling into the fire and noting the conditions transmit a second and third alarm, delegating a man to do so.

Stretch in two lines from nearest hydrant on the way in to fire, and get streams in operation on second floor, driving the fire back so that those at the windows of the third floor will not be forced to jump for their lives. Problem does not state nature or type of buildings on either side of fire nor to rear. Therefore no use can be made of such buildings for the rescue of imprisoned occupants.

Immediately upon getting lines in operation encouragement should be given those imprisoned above not to jump, but if any are in the act of jumping or appear to be about to jump then it will be necessary to impress bystanders into service and have them hold horse blankets, waterproof covers or other similar articles to catch those jumping. Due to the fact that an engine company is not equipped with ladders of sufficient length to be of use this is the only resort which can be taken to save life during the first few minutes of the fire.

Have men go to roof at once if possible to open up over stairway so that fire may be drawn out. If there are elevator shafts, vent shafts, or other vertical passages these should be opened at the top as well. It will prevent mushrooming on the top floor and save the occupants of that floor.

Immediately upon the arrival of ladder trucks they should be gotten in position and those within the building rescued.

As noted above no reference is made to rescue by way of adjoining buildings as problem does not give information which would warant such assumption.

The actual operation of fighting the fire would depend upon the nature of contents of building, the exposures, intensity of wind, and other factors not specified in the question.

Answer 6. It is assumed that while hose is in use at a fire it is not feasible to be especially careful in avoiding its damage or injury. After the fire it is generally possible to give attention to the condition of hose, at which time a number of items should be taken into account, including scorching of the cotton jackets, exposure to hot oils and greases, frozen strands, worn places due to friction on pavements, window or cornice ledges, etc. The ability of hose to sustain internal pressure without bursting is entirely dependent on the cotton jackets, the rubber lining having little or no value in this connection. consequently any damage or injury to the cotton jackets has an immediate bearing on the strength of the hose. When a line of hose is subjected to heat from a fire sufficient to discolor the cotton fabric it is time to investigate closely the extent of the actual weakening of the threads, which, if found to be at all brittle, have entirely lost their strength.

When wet hose is exposed to freezing temperatures so as to stiffen the jacket from ice formation, it should be handled as little as possible until thawed out, as it may occur that the warp threads, or some of them will break when the lengths of hose are bent or folded.

Pump pulsations frequently cause chafing of jackets on cobblestones, curbstone edges and edges of window sills and cornices. If much vibration takes place in hose lying on sharp cinders or frozen ground, a jacket may be entirely worn through in a half hour or less. The weakening of hose from such causes, while of material importance in any case and affecting the length of service received, is very greatly diminished in its first importance if the hose be double-jacketed, since, with the usual qualities of fire department hose, the strength of resisting bursting pressure of the inner jacket alone is ordinarily sufficient for practically all service conditions. The outer jacket, while adding to the strength for resisting bursting pressure to a very material amount while the hose is new, really serves as a scuff plate, shock absorber, or similar device, protecting the inner jacket from fatal injury. This function is believed to be of sufficient importance to overshadow the additional cost and weight, the latter being approximately 25 lbs. per length, and other considerations, except for service in private departments, where infrequent use is the usual case.

Exposure to hot oils and greases or to gasoline, naphtha and other rubber solvents, even if of very short duration, is likely to result in early failure of the rubber lining, which either hardens, perhaps to brittleness, or is loosened from the jackets, swollen and deformed so as to be entirely useless for performing its function.

Other injuries which hose receives in use at fires, in addition to the "natural injuries" from horse caulks, trolley wires, etc., are varied and large in number. In any event, it seems necessary to include the practice of making careful examination of hose for damage done during a fire as soon as possible after it is brought back to the house as a very important feature in the matter of the proper care of hose after purchase. Much of the fire hose in service is in departments where, fortunately, for one reason or another, it is not called into frequent use. Such hose must have special attention over and above that given to hose which is put into service each month, week, or day. This attention is required because of the tendency of all things to return to dust. Cotton, from which the hose jackets are made, is subject to mildew, the favorable conditions for which are continued dampness with poor ventilation. Cotton fabric at its best with respect to its strength and lasting properties if stored under conditions permitting good ventilation and the humidity of a bright June day. The rubber lining in the course of its manufacture is transferred from a plastic, putty-like mass to the condition in which it is found in new hose through a chemical reaction due to sulphur in the rubber compound. The period required for the reaction to take place is shortened by exposing the compound to heat. The reaction would nevertheless have progressed to approximately the same point in due course of time without recourse to artificial heat, and likewise continues at ordinary temperatures for presumably an indefinite length of time. Hence all rubber compounds are continuing the vulcanization process and will in time reach a condition of bone hardness. The rate of this process is speeded up when rubber is exposed to artificial heat, and at an increasingly faster rate with increases in the temperature. We are familiar with the "fountain of youth" effect which takes place when an old rubber band is placed in water for a day or two. While most rubber bands are practically pure rubber gum of high grade, this restoration of youth takes place to a greater or lesser degree with most rubber compounds when treated in this manner. Hose linings may be kept youthful by running water through each length at least every three or four months while the hose is stored ready for service. This should be done not only in the case of hose in service, but with all reserve supplies of new or old hose.

Because of the opposite effect of water, moisture, or dampness on the cotton fabric, care must be used to dry the hose jackets thoroughly and to drain all water from the tube before such reserve supplies are re-stored.

Elaborate Evidence of Incendiarism

The discovery of four buckets of kerosene and bundles of oil-saturated rags in the hallway of a new house in Danvers, Mass., recently, was considered sufficient proofs that fire bugs were bent on destruction in that vicinity. The inflammable material had been set on fire, which caused an alarm to be sent in, which was responded to by the local firemen. The flames were extinguished, and the state police were called in to make an investigation. Three buckets of oil were burning when the firemen reached the scene. George Sergeant, a ladderman, was painfully burned. The loss was placed at $1,000.

Grand Island, Neb., Buys Combination—A new 750-gal. American-LaFrance triple combination car has been added to the fire department in Grand Island, Neb.

FIRE DESTROYS CINCINNATI SCHOOL; CHIEF HOUSTON HAS NARROW ESCAPE

Old School Destroyed from Overheated Furnace—Building Total Loss—Chief Suffers Bad Fall Down Stairway

THE Franklin Preparatory School, situated on Walnut Hills, Cincinnati, O., was virtually destroyed by fire on the morning of February 1, entailing a loss estimated at $100,000. It was one of the historical educational institutions of the state, especially noted for the prominence of the personages who had laid the ground work for their future careers. The fire started at 6.50 a. m., from the furnaces, the drafts of which had been left open by the janitor while he went out to sweep the sidewalk. Passers-by discovered the flames and caused an alarm to be sent into the fire department. Following an explosion a third alarm was sent in, but flames quickly burst through the roof, and the main part of the building was soon gutted. It required eight hours to subdue the flames. One of the regretable features of the disaster was the narrow escape experienced by Chief Barney J. Houston, who fell down a flight of stairs in the burning building, sustaining serious bruises and burns. He was taken to a hospital for treatment, and returned to duty on the following day.

Chief Barney J. Houston, Cincinnati.

In his report to FIRE ENGINEERING, Chief Houston writes that the school, which was located in Avondale, a northeastern section of the city, covered a space 100 by 150 feet on a street forty feet wide. It was a two-story frame structure probably half a century old, with plaster walls and no fire combating facilities. The fire started in the furnace room from over heated furnaces. The first alarm came by phone at 6:48 a. m., and when it was stopped eight hours later the building with its contents was a total loss. Fire escapes were provided, but owing to the time of day there was no one in the building except the janitor. Five hydrant streams were employed with cotton rubber-lined hose. Chief Houston places the loss of building and contents at $75,000.

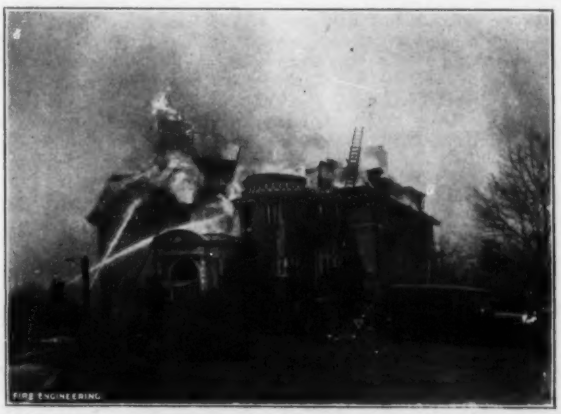
G. S. Sykes, principal of the school and president of the Franklin School Company, who had been associated with the institution for forty years, watched with tearful eyes the flames devour that which he had dearly cherished for two score years. He said that the graduates from Franklin Preparatory School included many men in high positions throughout the country, including Nicholas Longworth, Speaker of Congress. The contents included valuable sculptures, laboratory apparatus, pictures, text books and school furniture. The school contained ten rooms and a gymnasium.

Fire in the Franklin School, Cincinnati, Just as the Fire Department Got Into Action.

PUMPING ENGINES USED IN RELAY AT NEW YORK MANSION FIRE

Great Distances Between Hydrants and Fire Made Work of Fighting Fire Difficult—Four Alarms Required

TRYON HALL, commonly known as the Billings Mansion, at 196th street and Fort Washington Avenue, New York city, owned by John D. Rockefeller, jr., was destroyed by fire on March 6. The structure occupied the second highest pinacle on Manhattan island, being 190 feet above River Side Drive and 250 feet above tide-water. It was a huge rambling chateau with towers and turrets, conical steeples, oriel windows and great expanses of steep shingled roof. Built twenty-five years ago by C. K. G. Billings, Tryon Hall marked the spot of Fort Tryon where the Colonials under George Washington made their most stubborn stand on November 16, 1776, at the Battle of Washington Heights. It was a stucco and brick chateau in the style of Louis XIV, and is said to have cost $1,000,000. Mr. Rockefeller, who owns the property, including fifty-two acres of ground, offered it to the city about ten years ago, but it has never been formerly accepted. Despite this fact, Mr. Rockefeller intends that it shall go to the city of New York eventually. At the time of the fire the building was occupied by N. C. Partos, a drug manufacturer and his family. His wife and daughter were confined to their beds with pneumonia, and the residence was in charge of caretakers and a number of women servants. The invalids were removed to Mt. Sinai Hospital as soon as the fire was discovered.



Billings Mansion as Fire was Brought Under Control

The altitude at which the mansion was situated enabled hundreds of thousands of people to witness the flames from the New Jersey Palisades and from distant points in Greater New York. It was about the middle of the afternoon when the fire was discovered by passersby, who notified William Burkhardt, custodian of the property, and a fire alarm was sent in. The firemen, on their arrival, found the upper part of the structure enveloped in smoke, while flames were leaping from the windows. Acting Chief Dougherty immediately sent in a fourth alarm and soon had thirty streams pouring into the flames. Owing to the great distances of fire plugs from the fire it was difficult to obtain good pressures, and some long relay lines had to be employed. The fourth alarm had brought sufficient apparatus and men to cope with the flames and keep them from spreading. Tryon Hall was equipped with a private fire-fighting system, but at the emergency, as it often happens, it was out of commission.

A battalion of insurance salvage men arrived before the flames had dropped to the lower floors, and supposing that the streams would confine them to the upper part of the building, at once began to cover the furniture and draperies with tarpaulins. After the water difficulty had been overcome the firemen entered the

building and beat back the flames from parts of the vast structure, but owing to the inflammable material with which the rooms were furnished, it was impossible to confine the fire to any one section. The flames defied all efforts to keep them from leaping from one room to another until the entire interior was a seething furnace. Difficulty was also accentuated by the thick mesh of wires with which the stucco walls and ceilings were reinforced, making it impossible for firemen to use their axes.

One of the critical moments, as well as the most spectacular, was when the eastern turret fell with a tremendous crash down through the three floors, causing flames to belch forth like a volcano. It was then about twilight, and made the spectacle more discernable by the hundreds of thousands that were assembled on distant hill-tops in New Jersey and The Bronx. The roof caved in soon after the turret fell, sending a broad field of sparks and smoke against the darkening sky. From this time the flames began to subside, and gradually die under the higher pressure streams which Chief Dougherty succeeded in forcing by relay pumping.

Acting Chief Dougherty declared that it was one of his hardest-fought fire battles. John B. Corrigan, of hook and ladder 36, suffered injury to his right hand; Walter H. Tompkins, of engine company 95, had his right hand seriously lacerated by broken glass; and Thomas Kelly, of engine company 84, was overcome by smoke. They were attended by Dr. Harry Archer, fire department surgeon.

A quantity of valuable jewelry and other costly articles which were stowed in a safe, were later found intact.

WHAT'S BURNING

From reports covering the United States and Canada, the estimated losses by fire during the week ending March 12, 1926, aggregated $6,703,358, as compared with $8,372,100 for the corresponding week in 1925. The total is derived by adding to the amount in the list given, which includes only those of $15,000 loss and over a sum equal to fifteen per cent of that amount, statistics showing that the smaller fires average about that proportion of the larger. Losses for the week ending March 19, follow in their right order.

The figures published in this list, compiled from telegraphic reports of fires occurring during the weeks, are based on estimates made at the time, which are necessarily hurried and are subject to latter investigation and consequent correction. Taken as a whole, however, they give an approximately correct view of the losses incurred. The figures represent loss in thousands.

ATLANTA, GA.—Residence of F. A. Learherman, Habersham Road 15
CANTON, ILL.—Masonic Temple 70
VANCEBURG, KY.—Seven buildings including St. Charles Hotel. 70
BANGOR, ME.—Building owned by Cassidy and Rines Estates. 15
LAKEWOOD, N. J.—Sunray Cottage 15
HUGHESVILLE, PA.—Cadman Apartments 95
HONESDALE, PA.—Irving Cut Glass Factory 15
MT. WASHINGTON, PA.—Garage and greenhouses of A. W. Smith 25
SPARTANBURG, S. C.—Stock and building of A. & E. Company, Inc. 40
KINGS MOUNTAIN, N. C.—Elmer Lumber Company 15
ROCKVILLE VENTER, L. I.—Frame hotel owned by Mrs. John Finlayson 70
NEWARK, N. J.—Building of the Alcohol Products Company.. 145
DAVENPORT, IOWA—Two establishments in Central Office Building 15
WYANDOTTE, MICH.—Office building, North Biddle Street.. 45
COLLINGSWOOD, N. J.—Home of P. S. Young, Browning Road Section 15
MANTICOKE, PA.—Three-Story building owned by John Glowacki destroyed 15
NATHALIE, VA.—Property in business district destroyed.... 45
NEWTON, N. H.—Automobile body plant and adjoining property destroyed 70
WHITE PLAINS, N. Y.—Home of E. W. Presfeld 45
SENECA FALS, N. Y.—Columbus block destroyed 195
SYRACUSE, N. Y.—Durston and Wood blocks 195
MILLVILLE, N. J.—Madden Iron Foundry destroyed 25
SAUQUOIT, N. Y.—Firemen's Hall and store of I. R. Morgan.. 25
PORTLAND, ME.—Dirigo Fish Company's plant 95
ALBION, N. Y.—Warehouse at Carlton Station, owned by Albion Bank 25
WATERTOWN, N. Y.—The Rand Company store destroyed... 20
FORESTVILLE, N. Y.—Two buildings of Forestville Preserving Company 15
PALMETTO BLUFF, GA.—Home of R. T. Wilson 195
PLAINVILLE, CONN.—East buildings of Plainville Casting Company 45
HARTFORD, CONN.—Warehouse of Eastern Burlap Bag Company 43
MORRIS, ILL.—William Sparr leather store 25
LYONS, IOWA.—Ten-Mile House, Ridge Road, west of Anton Voss 25
TOPEKA, KANS.—Nicholson Place destroyed 15
KANSAS CITY, MO.—Warehouse of L. C. Worth Commission Company 15
OSHAWA, ONT.—Barn of Casey Trull destroyed 45
NEW CASTLE, PA.—Liberty Theatre on South Mill Street destroyed 95
NASHVILLE, TENN.—Burlap Department of Werthan Bag Company 95
CLINTON, PA.—Property of J. A. Wilson and H. J. Renkamp destroyed 30
NORTHLET, ARK.—Seven buildings destroyed 95
LOS ANGELES, CALIF.—Plant of Pacific Tank & Pipe Company 95
MILFORD, MASS.—Bowker Clothing Company 24
RANDOLPH, NEBR.—Two business buildings destroyed 25
LOS ANGELES, CALIF.—Building at 914 East 1st Street.... 70
NEW YORK, N. Y.—Home of J. A. Stillman, 9 West 52nd Street, N. Y. 45
HORNELL, N. Y.—Two family residence owned by A. Scholles. 15
BETHLEHEM, PA.—Shop of Garber & Kissel Company destroyed 15
OLEAN, N. Y.—Olean High School 15
ST. ALBANS, L. I., N. Y.—St. Albans Golf Club destroyed.... 145
LINDENHURST, L. I., N. Y.—Building owned by Jacob Harbel and adjoining property 30
NEW YORK, N Y.—Apartment building at Columbus Avenue & 104th St. 95
SOMERVILLE, N. J.—First Baptist Church 25
NEW YORK, N. Y.—Tryon Hall, owned by J. D. Rockefeller, Jr. 980
STONE, KY.—Tipple of the Fordson Coal Company 45
WIARTON, ONT., CANADA.—Two business buildings destroyed. 15
ROCKWOOD, ONT., CANADA.—Tannery of V. T. Smith Company 15
SCOTT, MISS.—Property of the Delta & Pine Land Company destroyed 95
EAST TOLEDO, OHIO.—Plant of Lake Erie Milling Company.. 70
MURRAY HILL, N. J.—Home of Thomas A. Lenci destroyed.. 25
DURLANDVILLE, N. Y.—Plant of Brooklyn Milk Company, Big Island 15
MONTREAL, CANADA.—Establishment of Granger Freres, Ltd. 480
BUFFALO, N. Y.—Paint store of William Sterling 15
LOS ANGELES, CALIF.—Majestic Custom Tailoring Company. 45
SANTA ANA, CALIF.—Building occupied by Dunton's Ford Agency 75
LAFAYETTE, IND.—Fraternity House at Purdue University.. 15
EVANSVILLE, IND.—Piggly Wiggly grocery 45
DIXON, IOWA.—Riefe & Kuehl garage destroyed 22
PETERSBURG, IND.—Ashby Drug Store and adoining property 20
SKOWHEGAN, MAINE.—Building owned by Martin B. Heselton 35
REVERE, MASS.—Two dwellings and apartment house 25
LEELENAU, MICH.—State bank building and adjoining store destroyed 45
CAMBRIDGE, N. Y.—Lauderdale House, Lake Lauderdale, owned by A. Kolohn 20
MINEOLA, TEXAS.—Mineola State Bank and two adjacent establishments 145
DILLON, S. C.—Building owned by Dillon Live Stock Company. 70
FRESNO, CALIF.—Merchandise establishment of Kamikawa Brothers 45
NEWARK, N. J.—Factory building, Lafayette and Green Streets 15
NEW BRUNSWICK, N. J.—Kilbourn property, New Durham Road 25
CARROLLTOWN, PA.—Nixon Theatre property 15
TACOMA, WASH.—Plant of Henningsen Creamery Company... 145
MARTINSBURG, W. VA.—Cauffman Drug store and adoining grocery 35
LITTLE ROCK, ARK.—Emanuel Baptist Church destroyed..... 145
MILLEN, GA.—Marks' Brothers Department Store destroyed.. 45
CHICAGO, ILL.—Bakery of Northwester Terra Cotta Company 45
FORT WAYNE, IND.—Building of Old Coal Company 35
FORT MADISON, IOWA.—Building housing J. C. Penn Store 70
ROXBURY, MASS.—Three-story brick at 67 Warren Street.... 15
EAST LIVERPOOL, OHIO.—Wm. Lemmer Building and two adjoining buildings 15
MILTON, PENNA.—Two exhibition buildings at Milton Fair Grounds 45
ARNOLD, PENNA.—Buildings in business district 20
CARLTON, N. Y.—Warehouse and contents destroyed 25
ARKWRIGHT, N. Y.—Plant of Arkwright Lumber Company.... 15

From reports covering the United States and Canada, the estimated losses by fire in the week ended March 19, 1926, aggregated $9,222,000, as compared with $4,105,200 for the corresponding week in 1925:,

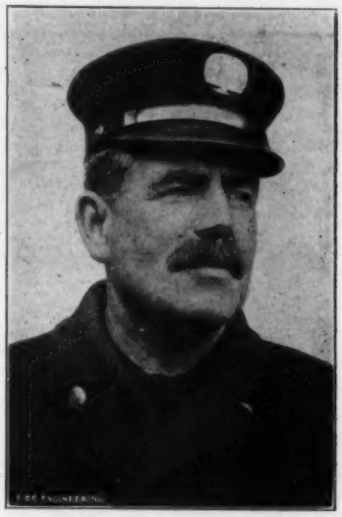
COLUMBIA, S. C.—Several business establishments, Main St.. 25
PHILADELPHIA, PA.—Property of Thos. E. Coale Lumber Co.. 245
KALAMAZOO, MICH.—First Methodist Church 95
CAMBRIDGE, MASS.—Building of Dover Stamping Company.. 20
BOSTON, MASS.—Market district—5-story building 190
Long Wharf building, on water front 145
LONG BRANCH, N. J.—Seacoast Furniture Company destroyed 70
PHILADELPHIA, PA.—Elizabeth Manor, apartment house.... 195
ALBANY, N. Y.—North Hudson Chemical Company 30
TRENTON, N. J.—Pierce-Roberts Rubber Company destroyd..... 70
FARMVILLE, VA.—Seven commercial establishments 245
FRAMINGHAM, MASS.—Three-story building of the Bethany Convent 195
DOVER, N. J.—Building of the Hass Clothing Company..... 125
CHICAGO, ILL.—Tanci's Hawthorne Inn destroyed 20
PETERSBURG, IND.—Virgil Ashby's Drug store 15
WEST LAFAYETTE, IND.—Delta Upsilon Fraternity partially destroyed 15
TOPEKA, KANS.—Nicholson Place, 18th & Oakley Streets.... 15
WEST SOMERVILLE, MASS.—Dwelling of Arthur Viano.... 15
LONE OAK, QUEBEC.—Lone Oak Mill 45
RICHMOND, VA.—Plant of Chamberlayne Tobacco Company... 95
MADISON, WIS.—Apartment house, 323 E. Washington Avenue 15
CHIPPEWA FALLS, WIS.—Building occupied by Chippewa Paper Box Co. 30
GREENVIEW, ILL.—Home of H. A. Marboid, two miles south.. 60
LEXINGTON, KY.—Three business establishments, West Main Street 95
DUBOIS, PENNA.—Five houses destroyed 15
HAMBURG, PENNA.—Lyric Theatre destroyed 15
LURAY, VA.—Several barns through rural district 35
VIROQUA, WISC.—Towner store 45
WESTPORT, CONN.—Residence of F. E. Lewis, Sangatuck Road 35
BUFFALO, N. Y.—Warehouse of Buffalo Waste Paper Company 15
OZARK, ARK.—High school destroyed 20
WYNNTON, GA.—Residence of S. M. Dixon, Wilwood Drive, destroyed 15

SPRINGFIELD, ILL.—Warehouse of Armstrong Auto Parts Company 30
GLASGOW, KY.—School annex destroyed 15
LYNN, MASS.—Travers Shoe Company, Realty Building 20
WEST BERLIN, MASS.—Dwelling of A. Bowen and barn of W. McCarthy 20
CADILLAC, MICH.—Seegmiller building 15
DETROIT, MICH.—Building at 2064 W. Jefferson Avenue 25
HALLSBORO, N. C.—Shingle plant of Nort Carolina Lumber Co. 120
CLEARFIELD, PENNA.—Property of Gearhart Lumber Company destroyed 30
S. PRESTON, PA.—Barn of Kelsey Stone destroyed 15
NORFOLK, VA.—Overton Building, 119 High Street 15
SYRACUSE, N. Y.—David Tobis store at 248 N. Salina Street 20
WINSTON-SALEM, N. C.—Moore's Spring Hotel and adjoining property 35
YORKVILLE, OHIO.—Four-family apartment of G. Yoki detroyed 18
SALT LAKE CITY, UTAH.—Congress Hall, Westminster College 390
ELIZABETH, N. J.—Dwellings at 416-18 Washington Avenue .. 25
SYRACUSE, N. Y.—Building occupied by J. G. McCrory 145
KEENE, N. H.—Central fire station, Vernon Street 25
BETHEL, CONN.—Congregational Church 20
BUFFALO, N. Y.—Three-story brick building at 166 Michigan Avenue 45
NEWARK, N. J.—Terrace Garden Restaurant Building 15
STARFORD, PENNA.—Several business buildings 120
CINCINNATI, OHIO.—Building at 113-15 W. Fourth Street 45
NATHALIE, VA.—Business district 45
PLATTSBURG, N. Y.—O'Brien block 290
HASTINGS, PENNA.—Main business section 145
BESSEMER, ALA.—Furnace No. 1 of the T. C. I. 35
SAN FRANCISCO, CALIF.—Factory of J. E. Shoemaker Company 80
NEW ORLEANS, LA.—Four story building, 734 Union Street .. 35
INDIANAPOLIS, IND.—Wood finishing plant of Lindeman Company 25
OLIN, IOWA.—Montgomery Hotel destroyed 15
AMSTERDAM, N. Y.—Hotel Warner Building 30
INDIANAPOLIS, IND.—Indiana Paper Company 95
HERTFORD, N. C.—Home of Mrs. W. G. Gaither, Sr., destroyed 15
WINDSOR, ONT.—Bernstein Apartments, East Pitt Street 30
RICHFIELD, PA.—Several barns and dwellings 95
TERREL, TEXAS.—I. L. Brin building and adjacent property .. 25
FARMSVILLE, VA.—Seven commercial establishments destroyed 245
TACOMA, WASH.—Henningsen Creamery Company 95
SALEM, N. J.—Two establishments in central business district. 15
CENTERVILLE, ALA.—Two business buildings and adjacent property 40
COCHRAN, GA.—Administration Building, 12th District A. & M. School 95
AVON, N. Y.—Genesee House destroyed 20
BROWNSVILLE, PA.—Garage and 150 automobiles destroyed .. 340
CAMBRIDGE, MASS.—Property at 479 Massachusetts Avenue .. 70
RENSSELAER, N. Y.—Residence of Wm. Lloyd destroyed 15
CANISTEO, N. Y.—Property owned by Leon Freenaughty 15
TONAWANDA, N. Y.—Niagara Shoe Company store destroyed .. 45
WAYLAND, N. Y.—We Mett Jewelry Company store 15
POTSDAM, N. Y.—Home and other property of J. Vitelo 15
HELENA, OHIO.—General store of G. J. Winters 15
AUBURN, N. Y.—Garage owned by Hutchings & Sons 20
CRESSON, N. Y.—Dairy barn owned by Louis Werth destroyed. 15
JASPER, ALA.—First Christian Church destroyed 20
URANIA, LA.—Commissary of Urania Lumber Company and adjoining property 55
MONCTON, N. B.—Barker building practically destroyed 35
SALEM, N. J.—Several business establishments 35
DUNKIRK, N. Y.—Store of J. M. McNulty Company, Main Street 15
CLEVELAND, OHIO—Black Whale Inn, Lake Shore Road ... 20
KAOLIN, PENNA.—Barn on Robinson farm on Wilmington Pike 15
OZANA, TEXAS—Business building 45
SALAMANCA, N. Y.—Property of Smith Chemical Company .. 15
TAMPA, FLA.—Warehouse of Lykes Brothers 145
HAVERHILL, MASS.—Three buildings used by shoe trade 85
MOBILE, ALA.—Home of A. E. Wilson, Ashland Place destroyed 80
LYNN, MASS.—Group of buildings of Thos. A. Kelley Company plant 70
CHATTANOOGA, TENN.—Boiler plant of Casey Hedges Company 145
NEW YORK, N. Y.—William Bartel's Pet Shop, Cortladt Street 70
NEWPORT NEWS, VA.—United States Lines steamship America 175
GREENVIEW, ILL.—Residence of H. J. Marbold, two miles south 65
YPSILANTI, MICH.—Three business establishments 20
BAINBRIDGE CENTER, MICH.—Store of Sol Radon destroyed 15
GONVICK, MINN.—Lumber yard and hardware store destroyed 18
HAYNES, N. D.—Five business houses destroyed 20
GALT, ONT.—McIrvine Block 95
LITITZ, PENNA.—Ideal Cocoa & Chocolate Company mixing room 15
GREENSBURG, PA.—Mace Building in business district 45
MAITLAND, FLA.—Packing house of Amer. Fruit Growers .. 290
MANSFIELD, LA.—Central High School Building destroyed .. 95
THREE FORKS, MONT.—Two business establishments 15
FRANKLIN, PA.—Power house of National Transit Company destroyed 25
S. JACKSONVILLE, FLA.—Ferry docks, two boats and yacht destroyed 265
TAUNTON, MASS.—Barnum Street School destroyed 95
DETROIT, MICH.—Fisher Wallpaper Company, Randolph St .. 90
TROY, N. Y.—Store of W. P. Herbert, Fulton Street 45
GENEVA, N. Y.—Schnirell Building, Seneca Street 45
KENILWORTH, UTAH—Kenilworth Amusement Hall 18
BUTLER, N. J.—Property of M. G. Untermyer, 3 miles distant. 140
WASHINGTON, D. C.—Buildings at 9 & F Streets 98
RED HOUSE, N. Y.—Plant of Smith Chemical Company 18

Mount Vernon, N. Y., Wants Paid Department—Mt. Vernon, N. Y., with a population of 52,000, wants a full paid fire department. It now has 34 paid and 450 volunteer firemen. There are nine companies and two reserve units.

T. J. Nicholas New Chief of Camden, N. J.

Thomas J. Nicholas has just been appointed chief of the fire department of Camden, N. J., to succeed Chief Peter Carter, retired, who has taken charge of the fire department of Collingswood, N. J.



Chief Thomas J. Nicholas, Camden, N. J.

Chief Nicholas has had a long and active career in the Camden Fire Department, having been appointed a member on March 1, 1900, twenty-six years ago, and has witnessed the great growth of the fire-fighting service of his city, including its change, in 1923, to the two-platoon basis.

His first promotion came to him on June 13, 1910, when he was appointed to a captaincy. This post he filled with efficiency for five years, and on October 1, 1915, in recognition of his work, he was advanced to battalion chief.

The next step forward he made came on June 1, 1921, when he became a deputy chief. This position he held until he received his appointment as head of the department on April 1 of this year.

The Camden Fire Department is under the supervision of a fire committee of the city council, consisting of nine members appointed annually by the president of the council. The fire chief is the executive head of the department, and has control of men and apparatus, subject to the approval of the fire committee. He has full command at fires.

Cincinnati Firemen Addressed by City Manager

City Manager C. O. Sherrill of Cincinnati, Ohio, recently made a number of important recommendations in an address before the first platoon of city firemen. Among the changes recommended were increased fire protection in the suburbs; additional fire houses and relocation of existing stations; working arrangements with adjacent localities; the establishment of a completely appointed training school; all firemen to have at least one neat uniform by April 1; the speeding of fire apparatus to cease.

After paying a very high tribute to the firemen, the city manager declared that the department could still be improved by making certain changes. He proposes to arrange with the heads of suburban municipalities to aid each other in cases of extreme emergencies, emphasizing the fact that the Cincinnati fire department is the "stand-by-reserve" of the smaller communities.

He referred to the matter of increase in salaries, and advised that personality had much to do in winning a higher appreciation of service. The two-platoon question was also touched upon by the manager, who added that he had made a thorough canvas of the department, and with Chief Barney Houston, had reached the conclusions expressed in his address. Periodical addresses are made by the city manager to the different fire platoons.

Sprinkler System Collapses at Fire

Flames that threatened great destruction recently broke out in a wheat flouring mill in Davenport, Iowa. The building which was of eight stories, was equipped with automatic sprinklers, which while they did not stop the fire at once, did much to confine it to one section of the mill. Help was called from neighboring cities in Illinois, and with several pumpers operating about twenty lines of hose, the flames were kept from spreading, and finally subdued with considerable effort. One deterrent to checking the fire early was the breaking off of the sprinkler mains in the building, but which were kept supplied with water without materially reducing the pressure in the city mains. Chief Denger was credited with having handled the fire in a skillful manner.

INDUSTRIAL PLANT PROTECTION

Modern Bucket Brigades

In colonial days, fire buckets were found in nearly every home. In fact, some towns passed an act requiring each householder to keep two buckets always on hand. When the alarm of fire was given, volunteers formed in line from the nearest pump, well, brook, or pond, and passed the buckets from hand to hand, either directly to the fire or to a "Hand-tub" from which the water was pumped through leather hose to the burning building.

Fire Bucket of Colonial Days.

Now, just as then, neighbors help one another to fight fire. And they still assist by supplying the water, but in a different way than of yore. Neighboring manufacturers, instead of being bucket-passers, have fire pumps that discharge into a joint system of fire mains. This is the method adopted by the Factory Mutual Companies for safeguarding the congested values in large cities. The pictures herewith show modern bucket brigades in action.

Lowell, Mass.

The oldest cooperative fire-protective system of this kind is at Lowell, Mass., and had its beginnings almost one hundred years ago. In 1828, one of the cotton mills there was destroyed by a fire which clearly demonstrated the need of an adequate water supply. The plan was then adopted of laying an interconnecting hydrant main along in front of the several mills. To this main were connected the force pumps and small attic-tanks of all the mills, so that the combined water supply could be concentrated on any one building.

In 1849, a 2,000,000-gallon reservoir was constructed on a hill about a mile from the mills, and at an elevation sufficient to give a water pressure of 80 to 90 pounds. This reservoir was connected to the already interconnected mill-yard piping. This joint fire system was gradually enlarged and extended to supply additional mills, and to feed the perforated sprinkler piping, in addition to the hydrants; and later it fed the automatic sprinklers, as the science of fire prevention advanced.

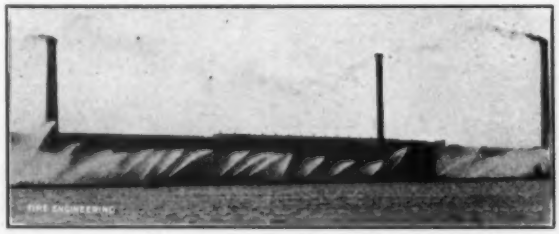
Joint Fire System at Lawrence, Mass.

A portion of the fifteen 2" and six 1¼" streams playing during a test of the 16" interconnecting main. Nineteen of the twenty-five were running, maintaining about 85 lbs. hydrant pressure. The total pumping capacity is 30,000 g. p. m., or the equivalent of one hundred and twenty 1 1⁄8" fire streams. The 16" main is normally under 70 lbs. pressure from fifteen connections to the city mains.

In 1884 the first steam fire pumps were connected to this system. Other pumps driven by steam and electricity have been added, until now there are twelve fire pumps, having a total capacity of 80 fire streams (20,000 g.p.m.) in addition to the primary supply of 3,000 g.p.m. from the reservoir.

New Bedford, Mass.

The Manomet, Nonquitt, Nashawena, and Whitman mills at New Bedford have their fire-protective piping of 10-inch and



Co-operative Fire Protection at New Bedford, Mass.

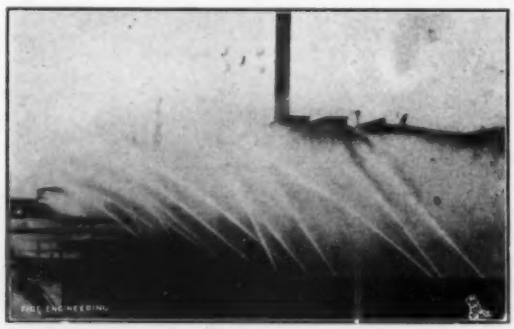
Forty-three fire streams concentrated in one mill yard, and supplied by fire pumps discharging 14,000 g. p. m. at 90 lbs. hydrant pressure. The streams were purposely directed at a low angle against a strong wind, to avoid deluging the mills. If elevated they would have gone above the roofs. Picture taken about a quarter-mile distant.

12-inch mains also connected for mutual assistance. The primary water supply is from the public mains through eight connections. The secondary supply is from twelve Underwriter fire pumps, taking suction from the Acushnet River, an inexhaustible source. The pumps are well distributed in seven separate power houses, thus adding greatly to their reliability in case of fire or other accident. The sprinklers in the various mill buildings, as well as the yard hydrants, are connected to this joint system.

During the test shown in the picture on the first page, the hose streams were concentrated in the yard of the Manomet Mills. The public water can furnish 21 good hose streams (5300 g.p.m.) and the pumps 56 streams (14,000 g.p.m.).

Lawrence, Mass.

Another community fire-protective system was completed a few years ago at Lawrence, Mass. Seven manufacturing plants,



A Wet Spot.

Near view of streams at right end of group shown above.

extending for a mile along the North Canal, shared the expense of laying a 16-inch water main parallel to their properties and connected to their private fire-protective systems, in accordance with the recommendations and plans furnished by the Factory Mutual Companies.

North of these valuable mills the fire exposure is considerable, due to an extensive mercantile district, and a large area of closely built wooden tenements. The long frontage facing the exposure is protected by open sprinklers on the outside of the important

(*Continued on page* 310)

OF INTEREST TO VOLUNTEER FIRE DEPARTMENTS

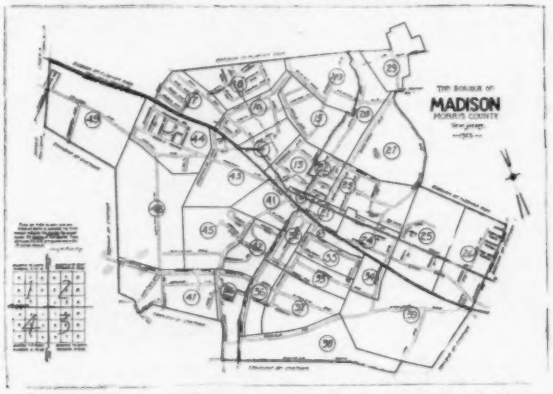
Fire Alarm Zoning System

Henry W. Pilch of Madison, N. J., has worked out a fire alarm signal zoning system that is applicable to towns that rely on the siren for the dissemination of the fire alarm signal.

Determine the center of the town. It will usually be at some point where two streets intersect at right angles thus dividing the city in four sections. The four divisions will correspond to the four cardinal points of the compass—north, south, east and west.

Beginning at the north and proceeding in a clockwise direction, the divisions should be numbered 1, 2, 3, and 4. Beginning from the center, each one of these quadrangles are numbered and divided into smaller divisions. The numbering should start from the center and work out towards the city limits.

When an alarm is sounded, the first number indicates in which section of the town the fire is located and the number following gives some indication how far out the fire is from the center of the town. Fire alarm number 21 would indicate that the fire was in the second or east section of the city; the one would show that the fire was near the center of the town. Similarly, number 39 indicates that the fire is in the third or west section of the city while nine points that the fire is somewheres near the city limit. Important street intersections, factory buildings and developments may be used as a further means of identification.



Typical Plan of Town, Showing, in Left-Hand Lower Corner, Method of Dividing in Four Equal Sections.

Should firemen remember the simple rules as outlined, it will not be necessary to have recourse to maps or charts to attempt to locate the district in which the fire is located.

Volunteer Salvage Corps

Nyack, New York, is one of the few villages which can boast of a volunteer salvage corps. The Nyack Fire Patrol was organized in 1915 and incorporated the following year. The objects of the fire patrol are to provide such police protection as is found necessary at fires, as well as to perform the usual salvage operations. The guiding hand behind this company was Capt. Albert Johnston, of Patrol No. 1, New York. Capt. Johnston is considered one of the foremost authorities on fire salvage and served in an advisory capacity in the organization of this company.

Through the courtesies extended by the New York Fire Patrol officers several members of the Nyack Fire Patrol were permitted to obtain first hand information of actual salvage operation, and the company was guided in its development by the New York organization and from time to time was assisted by this body in procuring suitable equipment for the work.

The equipment of the company consists of a Larrabee 1½-ton truck upon which the following are carried: Thirty-five regulation New York Underwriters' type oiled duck covers; shovels, brooms, personal equipment for a crew of ten men, search lights and extinguishers.

The membership of the company is 35 of which ten are active members and the others social. The difference in these classifications is that the active group are expected to work at fires performing physical duties, whereas the social grade is open only to local business men who join merely to assist the company financially. These latter men have no duties although they enjoy all of the privileges in the meetings.

The revenue for the support of this company is derived chiefly from parking of automobiles at a vantage point near a local theatre. This privilege, in three years, paid for the apparatus, equipment and one story frame quarters. The members who work in the auto park are relieved of the necessity of paying dues. No fines are imposed. So far as known this salvage company is the only organization of its type in the Hudson Valley.

The company is a member of the National Fire Protection Association, the Firemen's Association of the State of New York, Hudson Valley and Southern New York Firemen's Association, and is also an applicant for membership in the officers' association, Fire Patrols and Salvage Corps of the United States and Canada.

Denied Recognition as "Firemen."

A most remarkable situation has arisen at Nyack in connection with the Fire Patrol's effort to secure recognition as a "volunteer fire company," and secure advantages extended to recognized volunteer firemen.

Apparently the officers of the Firemen's Association of the State of New York are either unacquainted with the functions of the members of the salvage corps or they are not familiar with the duties of firemen.

The Chairman of the Law Committee in writing to a representative of the Nyack Fire Patrol expresses the views of the association in a rather interesting manner, as follows: "I do not think you are volunteer firemen.

"Your members could not be exempt volunteer firemen, and not being entitled to the right privileges of an exempt volunteer fireman, you would not be volunteer firemen."

And then on top of this the same representative of the Law Committee of the state association has written to the Nyack Fire Patrol: "I note that you are a 'Fire Patrol,' this in my opinion is not a volunteer fire company unless you are recognized as a volunteer fire company by your authorities and actually participate in saving life and property from fire."

The Law Committee is evidently familiar with law books but certainly has a very limited knowledge of fire fighting duties when they interpret the duties of a fire patrol other than saving life and property at a fire.

It is expected that as soon as the members of the Law Committee are fully educated in the duties of fire patrols they will see the justice of the claims of the Nyack Fire Patrol and grant them the privilege of exemption to jury duty.

Kings County Vamps Reviewed

Fifteen hundred members of the Kings County, N. Y., Volunteer Firemen's Association participated in the seventy-fifth annual parade in Brooklyn on Washington's Birthday. It was one of the most imposing street scenes of its kind that had taken place in years, some of them being the old vamps from seventy to ninety-four years of age.

Several companies were present from Westchester and Rockland counties and from Wilmington, Del. The parade, which was in four divisions, was led by Grand Marshal George Webb, assisted by Philip Peters, Joseph M. Kennedy and Edward C. Donlon. The Wilmington contingent was led by Chief William J. Lutz. Bartley Flanagan, credited with being 94 years old, was dean of the paraders. He formerly was connected with old Engine Co. No. 19. John T. Byrne was the youngest being only 77. He is chief clerk of the Appellate Division of the Supreme Court in Brooklyn, and is President of the Kings County Volunteer Firemen's Association.

Other veterans of the Brooklyn organization included William H. Vance, 90 years old; William J. Ray, 82; William V. Marcet, 81; Tow Wellwood, 80; James Shannon, 82; Abraham D. Bennett, 83; Martin McGowan, 81; Bill Hicks, 80; Andy J. Smith, 79; Thomas Lavan, 79; Michael Marrin, 73; W. P. Darrin, 76; and the Coates brothers, August 75, and Christopher 77. Following the parade the veterans were guests of William H. Todd at a luncheon in the Hotel Bossert, John B. Byrne acting as toastmaster.

Governor Alfred E. Smith made an address, and was followed

by former U. S. Senator W. M. Calder, Justice W. J. Kelly, U. S. Senator James W. Wadsworth, William H. Todd, Major Gen. Haskell, Edward Ward, President of the Wilmington City Council, Col. Warren Read, director of public safety of Wilmington, and Chief William Lutz. Other city officials also occupied seats on the reviewing stand.

New Chief and Deputy Chief, Pittsburgh, Pa.

Effective February 1, 1926, subject to the retirement on Pension of Chief of Department Michael F. Shanahan, Battalion Chief Richard Lee Smith in command of the First Battalion comprising the downtown business district was appointed Chief of Department by Director of Public Safety James M. Clark.

Chief Richard Lee Smith, Pittsburgh.

Chief Smith was first appointed to the Fire Department, June 27, 1901, and was assigned to Engine Company No. 5 as a Hoseman, the busiest fire company in the city. On March 20, 1903, he was promoted to Driver of Truck Company No. 8 which Company is located in the same quarters with Engine Company No. 5 and on March 1, 1907, he was promoted to Lieutenant of Engine Company No. 5 and on March 18, 1913, to the position of Captain of Engine Company No. 5 where he remained until August 14, 1918, when he was promoted to Battalion Chief and temporarily assigned to the Seventh Battalion on the North Side, later being transferred to the First Battalion in the downtown district where he remained until he was promoted to his present position, that of Chief of Department. During all his years of service up until the time he was appointed Battalion Chief, Chief Smith served all his time on Engine Company No. 5.

Deputy Chief Frank G. Jones, Pittsburgh.

Chief Smith is the youngest man to hold the position of Chief of Department for many years past, being only 48 years old. Chief Smith has always been an efficient and progressive fireman in every respect and has filled all the positions to which he has been appointed with credit and ability from that of Hoseman to Battalion Chief.

Chief Smith is the son of an old retired city fireman, Captain Leonard Smith, who served as a fireman for over thirty-five years on the paid Fire Department, retiring on pension, January 1, 1906, as Captain of Engine Company No. 26. Captain Smith like his son filled all the positions on the Fire Department with credit and ability and for a number of years was Captain of Engine Company No. 14. During the days of the Volunteeer Fire Department he was a member of the Relief Fire Company, holding the position of Secretary on said Company, which Company became a part of the Paid Fire Department, organized in 1870, and which Company is now known as Engine Company No. 4.

Chief Smith is a member of all the different branches of the Masonic Order and also the Syria Temple, Order of the Mystic Shrine.

He was born and raised in Pittsburgh and is married and lives with his wife and one son at 1200 Berlshire Ave., Brookline, one of Pittsburgh's pretty residential sections.

Effective also on February 1, Frank G. Jones, formerly Battalion Chief of the Fifth Battalion on the South Side, was appointed to the position of Deputy Chief with headquarters at Engine Company No. 3, Webster and Seventh Avenues in the downtown business district.

Chief Jones was first appointed to the fire department as a substitute hoseman in July, 1895, and on January 16, 1897, was appointed to a regular position as a hoseman and assigned to Engine Company No. 19 in the downtown business district. In October 1902 he was appointed Lieutenant and assigned to Truck Company No. 5 in the downtown business district and in 1903 was appointed Captain of Engine Company No. 3 which Company is located in the same quarters with Truck Company No. 5. On July 10, 1916, at the time the two-platoon system was put into service in the fire department Chief Jones was assigned to Engine Company No. 12 as Captain where he remained until March 5, 1918, when he was appointed Battalion Chief and assigned to the South Side district.

Chief Jones was born in Pittsburgh, Pa., November 30, 1868, and is 58 years old and before entering the Fire Department followed the trade of a glass worker. Chief Jones is a member of all the different branches of the Masonic Order and also Syria Temple, Order of the Mystic Shrine and also a member of the Independent Order of Odd Fellows. Chief Jones is married and lives with his wife at 429 Edgemont Street. Chief Jones is an active man and has proved himself to be an efficient and progressive fire fighter.

WILLIAM E. PATTERSON.

Annual Report of Jersey City, N. J.

Chief Roger Boyle, of the fire department of Jersey City, N. J., makes an excellent showing in his report for 1925. The year's fire losses are $580,825. These figures are $1,026,225 below those of the previous twelve months. According to the report the insurance covering last year's losses was $3,416,000, the estimated amount of insurance paid being $557,220, or a per capita loss of $1.78. The department responded to 1,540 alarms, of which 17 were second alarms and three third alarms; 851 still alarms and 467 conflagrations. Nearly 92 per cent of the fires were confined to the place of origin. There were 166 false alarms, despite the fact that there were a number of convictions last year for committing this offense.

Chief Roger Boyle, Jersey City, N. J.

The department received during the year two powerful pumping engines, replacing the motor-driven steam apparatus Many other improvements to the department are mentioned in the report. That the department is on a high plane of efficiency is shown by the report of the National Board of Fire Underwriters, in which the organization is highly commended for its good work. The most disastrous fire during the year, the report says, was the burning of the Barnes Manufacturing Company, on West Side avenue, entailing a loss of $300,000. This occurred on June 23, and on the same day the Jersey City department was called to Bayonne to aid in extinguishing the fire which destroyed the Consumers Coal and Ice Company plant.

Chief Boyle reports that the Bureau of Combustibles made 9,000 investigations last year under the direction of Inspector James Connolly, including 560 complaints concerning fire hazards. The personnel of the department is highly praised in the report, which says that the mechanical equipment is in satisfactory condition, and in fact such as to elicit the unstinted praise of the members of the International Board of Fire Underwriters. Director of Public Safety John Beggans says: "I hope that future reports on the progress and work of the fire department during each year will be as revealing and satisfying as the one just submitted by Chief Boyle."

Des Moines Firemen Avert Injury

Severe injury was miraculously averted when one of the wheels on the fire apparatus on which five firemen were responding to a fire in Des Moines, Ia., suddenly collapsed. The apparatus was racing to the fire and almost turned turtle when the wheel came off. One of the men received scratches on his nose and the other a sprained back.

Recent Patents

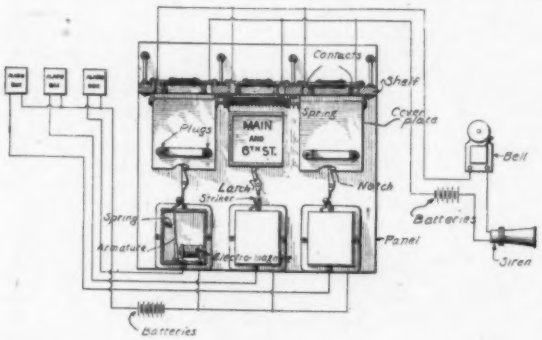
Descriptions of Patents Recently Issued of Interest to Fire Departments—New Fire Alarm—Fire Extinguishing Grenade

Fire Alarm Apparatus

A new design of fire alarm apparatus (patent No. 1,570,255) has been patented by Hugo Hunke of Taylor, Tex.

The illustration, which is partially in section, depicts the indicating and alarm mechanism at a fire station and shows the fire alarm circuit.

A circuit is provided from the source of electrical energy to and from the indicating mechanism and is connected with one



of the circuit closing contacts or switch points of alarm boxes. This is arranged at the points to be protected. Other conductors which complete the circuit conductors, extend from the circuit closing contacts to the indicating mechanism at the central or fire station. In the illustration three of the fire alarm boxes are shown but any number of boxes may be used. Included in the system is an alarm circuit which obtains its energy from batteries or other sources and which is connected with a bell, siren or other audible signal which is actuated by one of the fire alarm box circuits.

At the station is a panel board upon which are mounted a series of indicating devices—a cover plate is provided for each indicator. A spring is provided for keeping the cover plates closed until released by the actuating mechanism.

A notch is provided at each end of the cover plate to receive a locking stud upon one end of a centrally pivoted latch whereby when the cover plate is in closed position and engaged by the latch, the plate will be held from opening by the action of the spring. The lower end of the latch forms a trip arm which engages with a striker on an armature which is normally held retracted by the spring and is adapted to be operated by an electro-magnet.

When the switch device of an alarm box is operated at a station to close the circuit, the magnate is energized and attracts the armature causing the striker to engage and release the latch and the cover plate will then fly upward under the action of the spring. The cover plate also forms a switch for closing the alarm circuit containing the alarm devices of the bell and siren; each cover plate is provided with circuit closing contacts or plugs.

The plugs are designed to engage spring sockets or jackets which are mounted on the shelf. A pair of sockets are provided for the cooperation with the switch contacts of each cover plate and each pair of sockets are independently connected. The siren and bell may be located at some remote point so that an alarm will ring within the engine house and also at some exterior place.

Fire-Extinguishing Grenade

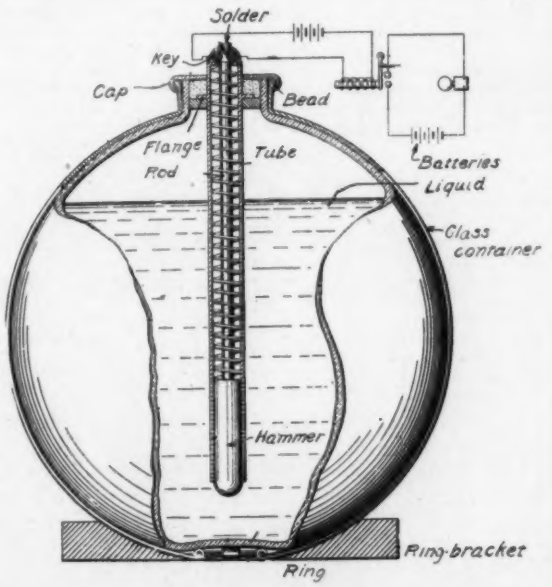
A grenade for the extinguishing of fire has been designed (patent No. 1,565,036) by Henry Tank of Alameda, Cal.

An elevation of the device, partly in cross section, is shown in the illustration. A container of glass or other material which is easily broken and spherical in shape is adapted to contain a quantity of some fire extinguishing liquid, preferably carbon tetrachloride. The wall of the container is provided with inwardly extending beads forming V-shaped or triangular grooves on the exterior side of the container and extending slightly from the bottom of the container to the neck. In the grooves are breaking bands so that when the grenade is thrown, the impact of the collision will drive the band through the container wall and make possible the flow of liquid from the container. The lower ends of the band are hooked about a ring and the upper ends of the bands are resiliently held within an internal groove into which the bead on the end of the bands snap when the cap is applied.

The fluid held in the grenade is sealed in the container by a cork and a superimposed sealing compound.

A tube passes through the center of the cap, cork and sealing compound and extends a short distance above the cap on the outside and nearly to the bottom of the container. A flange which rests on the cork and is enclosed by the sealing compound fixes the position of the tube. Within the tube there is a rod terminating in a hammer head which normally lies a short distance above the bottom of the container. At the upper end, the rod passes loosely through the end wall of the tube and is provided with an annular groove in which the cylindrical keys, which rest on the tube end, are seated. A mass of solder which fuses at a predetermined temperature is placed around the end of the rod to hold the keys in place, and maintains the position of the hammer against the spring. The grenade rests on a ring-bracket.

When the solder melts, the downward pressure of the spring throws the hammer sharply against the bottom of the container, breaking it and permitting the fluid to escape. Where it is desired to give an alarm when the grenade is broken or taken from the stand, a circuit similar to the one in the illustration may be arranged. When the grenade is taken off the stand, the keys



break contact with the closed circuit, the magnet is de-energized and the arm raises up, making contact which rings the bell or other alarm.

Macon, Ga., Appoints Drill Master

The fire department at Macon, Ga., has appointed Leo D. Walsh, former third assistant chief of Savannah, Ga., as drill master under the supervision of Chief Walter S. Blanton.

Mr. Walsh was third assistant chief in Savannah for two years under the Seabrook administration and resigned on January 1, 1919. After that he was with the United States Engineers' office at Savannah. For thirteen years he was connected with the Savannah department working up from the rank of private. He was appointed private under Chief McFarland in 1906; he was promoted to lieutenant in 1911 and engineer in 1912. He returned to the department under the Seabrook administration as third assistant chief and drill master. In 1924, he graduated from the New York Fire College.

JOHN A. STULB.

Taking Up Collections Prohibited

Fire Commissioner Thomas J. Drennan of the New York Fire Department has just issued the following order to all fire companies:

The following copy of Communication received from the office of His Honor the Mayor, is hereby promulgated for the information of the employees of the department:

"City of New York,
Office of the Mayor.

Thomas J. Drennan, Esq., Fire Commissioner.

DEAR SIR: Mayor Walker has directed me to call your attention to a number of complaints that have been received by him from anonymous sources regarding the taking up of collections in city departments for the purpose of making gifts to different individuals.

The Mayor is inclined to believe that this practice should be discontinued owing to the fact that it works a hardship upon many of the employees who are contributing to these funds at a great personal sacrifice.

Will you, therefore, kindly issue instructions that any collections among the employees of your department shall henceforth be limited solely to such great public charities as may from time to time ask our permission to receive voluntary contributions from the employees through a designated representative. Very truly yours, (Signed) Edward L. Stanton, Secretary to the Mayor."

THOMAS J. DRENNAN,
Fire Commissioner.

Firemen to Meet at Alexandria Bay

The Firemen's Association of New York State are making plans for their fifty-fourth annual convention which will be held the week of August 16 at Alexandria Bay, N. Y.

This village may be called the Mecca for vacationists, and during the month of August, the bay with its thousand islands will be especially inviting.

The various fire departments in the state are urged by William H. Swartout, treasurer, 115 Main St., Ossining, N. Y., to send in the name of their delegates and the fee of two dollars for each delegate. There is a fee of five dollars for the initiation of new companies.

For information as to cottages and hotel accommodations, the delegate is advised to write to John T. Delaney, secretary of the chamber of commerce, Alexandria Bay, N. Y.

Southern N. Y. Volunteers to Meet in Islip

The annual convention and tournament of the Southern New York Volunteer Firemen's Association will be held at Islip, Long Island, N. Y., the latter part of June, the date not having yet been determined. The association comprises the fire departments of nine counties in the southern section of New York state. The secretary of the Association is August Kalb, N. Center Avenue, Rockville Center, N. Y. Chief Charles Bollinger of Islip, has already selected his committees.

The exact date on which the convention is to take place will be announced by FIRE ENGINEERING as soon as decided upon.

Fire Spreads as Small Streams are Used

(*Continued from page 292*)

Noting the extremely hazardous condition of the plant, in view of its occupancy as well as the dangerous exposures on all sides he transmitted a third alarm without further delay.

The assignment of companies on the second alarm was as follows: Engine Co. No. 4 was placed at hydrant No. 9 and a single line stretched with 1¼ inch nozzle to operate in building A. It was the intention of this line to help the other lines already operating in this building to hold the fire, extinguish it and eventually assist in controlling the fire in B. Engine Co. No. 5 was placed at hydrant No. 8 and a single line stretched up Wyburn Avenue to operate on building B as well as help cover exposures across the street. This line was also equipped with 1¼ inch tip.

The chief considered that in view of the rapid spread of the fire that it would not be wise to put in service deck guns due to the possible necessity of having to shift them frequently to keep them out of the range of the fire.

Hose Co. No. 4 upon arriving was assigned to stretch a second line from engine Co. No. 3, this line to operate on the fire in building B and also assist in whatever manner possible in covering exposures. A 1¼ inch tip was also used on this line.

At this point instead of the flare from building C diminishing it became more and more intense and caused the men operating to the south of the flare on Wyburn Avenue to retreat nearly 100 feet.

This imposed a severe handicap on the department for streams could not be placed in operation on the fire in building B with any effectiveness.

Also, it cut down the effectiveness in covering the sash and door factory across the street.

The chief of the department assigned truckmen responding on the second alarm to make a survey of the surrounding buildings. They discovered that fire had passed into the basement of building B from A and was burning in stock in the basement of that building.

At this time there were no heavy gases present in the basement of building B, although there was considerable smoke. But the presence of a number of carboys of various acids, their identity not being known at the time, led the officer in charge of the truckmen making the survey to withdraw his men.

The shoe factory on the north of the chemical plant was not seriously endangered up to this point for it was protected from the chemical plant by a 24-inch fire wall, as well as having no combustible materials adjacent to the wall on any floor.

Engine Co. No. 6 arriving as the first company on the third alarm was stationed at hydrant No. 3. This company stretched in a single line and operated into building C, but could not get near enough because at this time an intense flare was beginning to spread from the building over Jay Street. The line, nevertheless, held its position and endeavored to cool down the flames as much as possible by directing the stream at an angle through the windows facing Jay Street.

The survey by the truckmen on the second alarm assignment also disclosed, about this time, the fact that fire had entered the sash and door plant and was burning on both floors in the front of the building. Thereupon the chief directed the assignment of two lines operating from engine Co. No. 1 to work through into the sash door plant from the Jay Street side.

This left building B covered only by lines from the south, which had to be operated at a distance due to the heat being driven down this street by the wind from the north.

Engine Co. No. 7 was stationed at hydrant 5 and stretched in two lines to the sash and door plant on the ground floor, and they had all they could do to hold their own. In the meantime fire was spreading rapidly over the second floor of the sash and door factory and involving a large stock of window frames which had been placed along the walls and near the front of the building on the second floor.

Engine Co. No. 8 was stationed at hydrant No. 10 and stretched a single line to building A of the chemical plant. Then engine Co. No. 3 was directed to assign both of its lines to covering the sash and door plant as well as checking the fire from entering the fur dying plant adjacent to the latter.

The fire continuing in its intensity in buildings C, B, and A of the chemical plant as well as entering building D, the chief transmitted a special call which brought three additional engine companies, a water tower, and one hose company.

These companies were assigned to various hydrants and endeavored to hold the fire from spreading any further in building D, as well as extending to the sash and door plant.

As it was, however, the fire got full control of the sash and door plant and it was found necessary to withdraw the men from the first floor. This building was completely destroyed.

The department, nevertheless, held the fire from extending to the fur dying plant adjacent to the sash and door factory.

It also by careful work prevented the fire from jumping across Jay Street to the wholesale market buildings.

It also held the fire from entering any of the shoe manufacturing plant buildings.

Fire continued to burn in the basement of building D and due to the presence of heavy fumes now being generated, no progress could be made against the fire.

However, the fire was held from rising on the various floors of this building by quick ventilation performed by the various ladder companies and good work by streams.

As fast as fire would enter from the basement to the first floor it was quickly washed out with streams from two sides.

By thus confining the fire the department was able to hold it in biuldings A, B, and C, the basement of building D. By covering exposures the department was able to prevent the fire from spreading beyond buildings A, B, and C of the chemical plant, and the basement of building D of the same plant; and the sash and door factory.

The buildings A, B, and C and the sash and door plant were completely destroyed. Building D was damaged only on the first floor and the basement.

The department deserves credit for confining the fire at this point.

The presence of the large quantity of chlorate of potash made the fire a particularly severe one but one which entails many points of interest.

The Editor's opinion on the handling of this fire will be given in the next issue of this journal.

AMAZING GROWTH

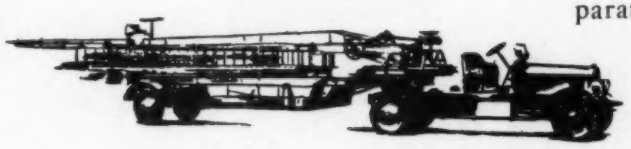
of the Seagrave Corp., over a 21 Year Period

1904

1909

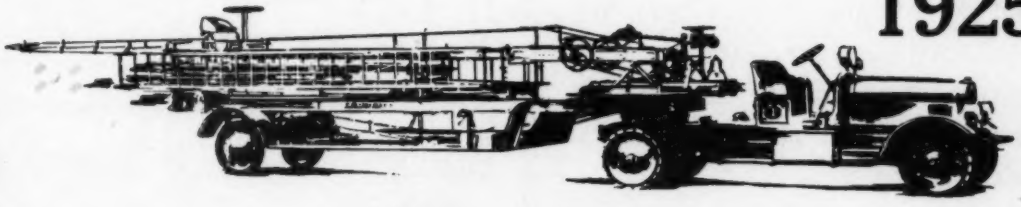
1914

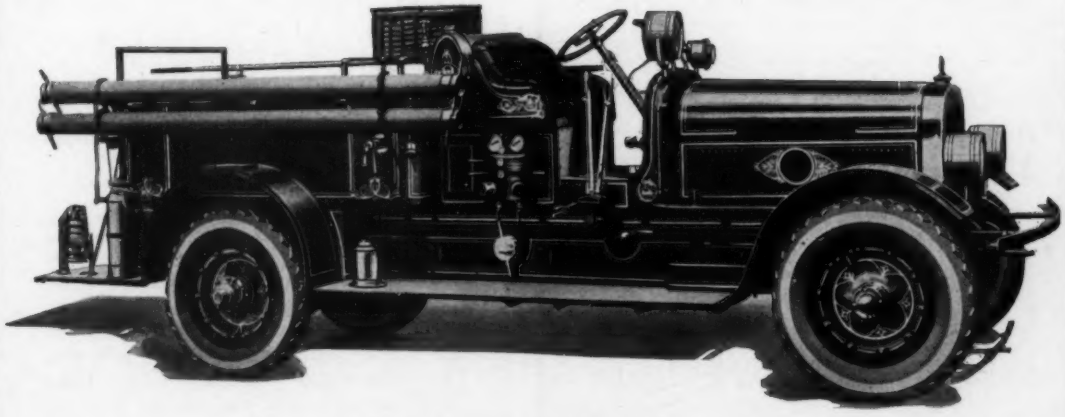
Mushroom-like, the Seagrave Corporation has sprung to its present dominating position in the manufacturing of Fire Fighting Equipment. Not only does such growth prove the genuine quality of Seagrave Equipment, but is indicative of the widespread preference for Seagrave apparatus.



1919

1925



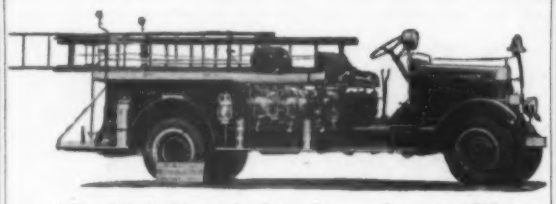


Let Your Next One Be A Seagrave

THE SEAGRAVE CORPORATION

Columbus, Ohio, and Branch Offices at

Boston, Mass. New Haven, Conn. Philadelphia, Pa. Chicago, Ill. Kansas City, Mo. Pittsburgh, Pa. Los Angeles, Calif. San Francisco, Calif.
Dallas, Texas Seattle, Wash. Birmingham, Ala.



"Pirsch" double tank chem. hose and pumper 500 gal. cap.

"Pirsch" has built fire apparatus exclusively for nearly 30 years. Today "Pirsch" apparatus or equipment will be found in over one thousand fire departments—all over the world.

You take no chance buying of us—You do not buy an experiment—"Pirsch" apparatus and equipment has been proven through actual service.

Let us figure on your new apparatus of any type, especially pumpers of 150—300—350—500—750 gallons capacities.

Our new catalogue No. 16 is now ready—ask for it.

PETER PIRSCH & SONS CO.

EST. 1857

KENOSHA WISCONSIN

15-25 Whitehall St., New York, N. Y.

BADGES

of Every Description

QUALITY GUARANTEED

Right Prices
Prompt Deliveries

We Also Make the Durable "ROSS" HELMET

Our latest catalogue and price list will gladly be sent on request.

EVERSON-ROSS CO., INC.
88 Chambers St., New York

Successful Since Sixty-Eight

Worcester Fire Alarm Signals

Long experience in the manufacture of fire alarm signals has given the Worcester whistle a distinction of its own.

It is made to be heard above the din of factory or traffic. Its tone, in no way piercing or unpleasant penetrates to great distances. Operated in conjunction with the electric alarm installations or by steam. Made in four sizes.

We shall be glad to tell you about the Worcester Fire Alarm Signal. Ask for catalog R-51.

Union Water Meter Co.

WORCESTER, MASS.

New York Office: 50 Church St.
Phila. Office: 539 Real Estate Trust Bldg.

New York's Most Decorated Fireman

Fireman John P. Furey, of New York City, recently appointed in the New York Fire Department, is said to be the most decorated man to enter the fire service in that city. Furey was appointed to Engine Co. 18 in W. 10th Street. He comes to the fire service with the Distinguished Service Cross, the Croix de Guerre and the Conspicuous Service Cross. He had been decorated by the United States, France, and the State of New York. He holds five medals, and to one of them is suspended five bars, each bar signifying a major engagement.

John P. Furey, New York Fire Department, in A. E. F. Uniform

Furey was one of the outstanding members of the 165th Infantry, more popularly known in National Guard circles as "The Fighting Irish 69th." Over in the A. E. F., where Johnny Furey served Uncle Sam from October, 1917, to March, 1919, he made a name for himself. On May 22, 1918, Furey with 51 others comprised a raiding party in which were some members of the French 67th Infantry. They cut through wire entanglements, avoided gun shot and with bayonets only, surprised and killed or wounded many of the enemy, and ended the encounter by taking as many German prisoners as there were members of the raiding party.

The Rev. Francis P. Duffy, Chaplain of the 165th Infantry, and famous as one of America's conspicuous war chaplains, says in his book, "Father Duffy's Story," in reporting the Argonne Offensive, this:

"With Colonel Donovan on the slope on October 15 were sergeants of Headquarters Company and the Machine Gun Company.

"The Colonel told me later that the shell which blew Sergeant Sheahan heavenward took the legs off another Irish soldier who was with him. This I knew was Patrick Connors. Another Irishman jumped from a neighboring shell-hole, picked up the wounded man and kissed him, saying: 'Me poor fellow, me poor fellow.' He then put torniquets on his stumps and unaided started down the dangerous slope carrying him to the rear.

"This deed was performed by Corporal John Patrick Furey of Company H, who was in charge of the ammunition carriers for the machine guns. Furey had been wounded already himself, and the sergeants wanted him to go to the rear, but he refused. When he was carrying Connors back they shouted to him to get in an ambulance when he got there; but later in the morning Furey reappeared alongside them after his two-mile journey in each direction, and this in spite of the fact that the strain of carrying his burden had reopened another wound that he got at the Ourcq. It was an exhibition of tender-heartedness and sheer courage that honors humanity."

DALY.

Kansas City Plans Big Improvements

Appreciating the great need of better fire protection, the lower house of the Kansas City, Mo., Common Council on December 21, 1925, voted to request the National Board of Fire Underwriters to make a resurvey of the local fire department and its needs, and to furnish the city with their findings and recommendations as soon as possible. On March 8, the Committee on Fire Prevention and Engineering Standards of the National Board, of which N. S. Bartow is Chairman, submitted its report, having performed its survey within three months.

Having been informed of the amount that the city was in a position to invest in fire apparatus—$1,200,000—the engineers of the National Board made their calculations accordingly. Kansas City, Mo., which has a population of 325,000, will on April 10, change the city government to that of a mayor and eight councilmen, with a city manager, H. F. McElroy having been chosen for the latter position. The present equipment of 29 pumpers and 10 ladder companies complies with the requirements for maximum demand in a city of its size, but the present need is suitable apparatus for all existing companies. The National Board engineers therefore recommend that six pieces of equipment, consisting of two pumpers, three service ladder trucks and one aerial ladder truck be delivered withing the next few months under a rental contract. In addition to these there should be provided under a contract for delivery this year the following pieces to properly equip companies and provide reserve: Twelve pumpers of not less than 700 gallons capacity; four 75-foot aerial ladder trucks; five hose wagons with booster or chemical tanks and turret nozzles; and one service ladder truck. It is estimated that the total cost of this fleet of apparatus should not exceed $250,000.

The recommendations of the National Board are voluminous, involving many changes in fire stations and relocations of companies and apparatus, as well as the construction of new fire houses, it is suggested should be carried through this year. A new station is needed at Swope Parkway between 49th street and 52d street, equipped with a pumper company. Recommendations were also made for a hose company at 55th street and Wornall Road, a pumper company at 35th and Summit streets, and a pumper company at 12th street and Van Brunt Boulevard. As repair shops are inadequate, it is suggested that station 4 can be made into a repair shop. A training school was also recommended for new members at which time their fitness for fire service should be determined. Competitive drills of companies; a demonstration smoke room; sprinkler and standpipe exhibits and facilities for lectures with illustrated talks on features of building construction and hazards, are also suggested.

The engineers found that all companies were without a proper amount of hose, because the apparatus was not able to carry the full complement of 1,000 feet. It was suggested that fully 15,000 feet of fire hose be in readiness when the new apparatus arrives. This will give 1,000 feet for each hose wagon or pumper, and have 1,000 feet to spare in each station. Some of this hose should be 3-inch. Hose over seven years old should be replaced or transferred to outlying companies. An increase in the annual appropriation for man power is highly essential, as a minimum of 342 men should be provided at the present time for engine and hose companies, with ten more men for the additional companies recommended for not later than 1930. For ladder companies there should be a minimum of 136 men, and there should be four drivers for the chiefs. This gives a present total required fire force, exclusive of chief officers, of 502 men, or 111 more than the present force. With the funds available all of the companies needed in Kansas City can be adequately equipped with suitable apparatus and sufficient reserve equipment can be provided.

Modern Bucket Brigades

(*Continued from page* 302)

mill buildings, and by private three-way hydrants located on the cross streets and fed by branch lines from the 16-inch main. The fire brigades of the mills are equipped with plenty of hose and play-pipes, supplemented by 2-inch deluge nozzles, each supplied by three hose lines, thus furnishing powerful fire streams. This is all supplementary to the equipment of the public fire department.

The 16-inch interconnecting main is normally under 70 pounds city-water pressure from fifteen connections to the public mains. In addition, twenty-five fire pumps, located at the various mills and taking suction from the canal and river, can deliver into this main about 30,000 gallons per minute at 100 pounds pressure. This is the equivalent of one hundred and twenty 1⅛-inch fire streams, and is ample to supply open sprinklers, automatic sprinklers, hose streams, and deluge nozzles simultaneously in case of a conflagration.

There are many other smaller groups of mills having their yard systems connected for this same purpose. Such combined systems as these furnish a more abundant water supply than any single plant could afford and compensate for the large concentration of values in industrial centers. The joint fire systems at Lowell, New Bedford, and Lawrence are excellent examples of cooperation for mutual assistance and could well be studied by other groups of mills similarly situated.

Veto of Platoon System Causes Clash

Because of the refusal of the city council of Gloversville, N. Y., to grant their petition for the institution of the two-platoon system, ten members of the paid fire department offered their resignations to the common council; in addition, the call men stated that they wanted an increase in their salary.

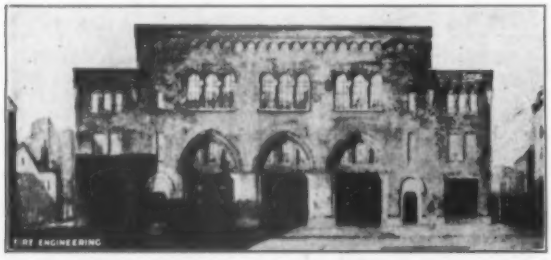
For three years, the fire department tried for the inauguration of the two-platoon system, and each time the council stated that the city funds did not permit of the increased expense. The members of the city council, while they were in sympathy with the firemen and saw the justification of their demands, were unable to accede to their wishes because of the one per cent limit in the city taxes.

The call men also resigned but stated that they would serve the city without pay until April 1.

Philadelphia Central Fire Station

When completed, Philadelphia, Pa., will have a central fire station which in addition to housing the fire companies will have provisions for the files and offices of the fire department.

The apparatus floor has space for housing a rescue squad, one engine company, one ladder truck and one pipe line company; a separate room houses the chief's car. In the rear of the apparatus floor is constructed the hose tower. Space is



Artists Drawing of How Station Will Appear When Completed.

provided in the rear for a receiving room, storage, and a kitchen; to the right is the chauffeur's room, and wash room. There are four stairways, two in the front and two in the rear of the building. This minimizes the necessary trips to the nearest stair-case. In the rear of the building, is an enclosed driveway.

The dormitories and offices are located on the second floor. On the left are rooms for three officers, each with a private bath. A private corridor provides access to a sliding pole and a stair case. There are four dormitories for the men—two on each side of the floor—two sliding poles and one stair case is provided for each set of two dormitories. The wash rooms, showers, lockers and pool are located at the rear of this floor. In the center is an open court to be used for recreational purposes and it will, at the same time, furnish light to the first floor.

At the front of this floor is located the pool room. There are rooms for the fire dispatcher and the clerks, one large office, one private office with space for a secretary and stenographers. From the chief's chamber, there is a brass sliding pole which gives quick access to the chief's car below.

An inspection of the plans will show that there is room for the growth of the department, and that each one of the rooms will have ample light facilities from the many windows. The companies' headquarters is so arranged that they are independent of the office force. The few doors that do furnish communication to that section, can only be opened from the executive offices.

Exclusive of the cost of the ground, the building when completed will cost in the vicinity of $275,000.

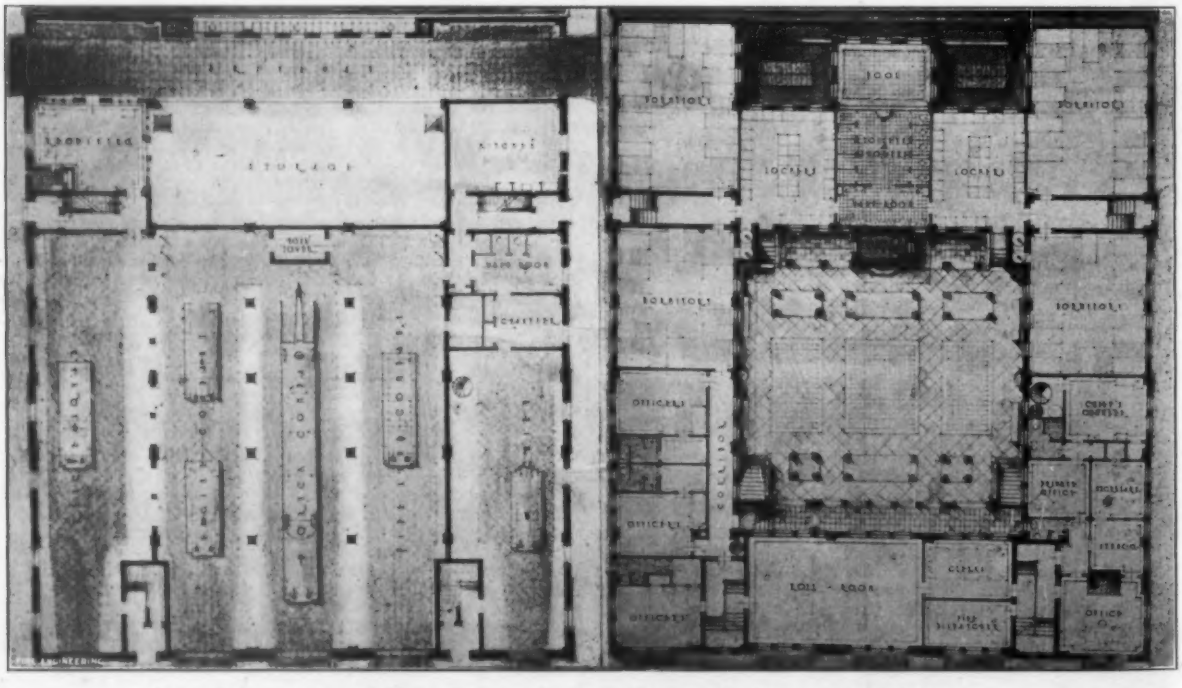
Southern City Doubles Chief's Salary

Cities throughout the country are gradually waking up to the idea that efficiency can best be recognized by adequate remuneration. In short they are acknowledging that the "laborer is worthy of his hire." One of the most recent evidences of this is the course taken at a recent meeting of the City Commission at Albany, Ga., where the salaries of several of its public servants were materially increased for the current year. One of these whose services for several years has highly commended itself to the commission, is fire Chief Brosnan. His salary has been increased fifty per cent over that for last year. The commission took into account Chief Brosnan's service in fire prevention and the increased efficiency of the fire department, and appraised it at a figure more commensurately with its value. The Board of Fire Underwriters had already paid the commission a compliment for the low fire losses by giving the city the lowest fire insurance rates in that state.

Suffern, N. Y., Firemen Celebrate Anniversary

The members of Volunteer Hose Company No. 1, the oldest fire company of the Suffern, N. Y., fire department, tendered a dinner and entertainment recently to the active and active honorary members of the organization, chiefs and ex-chiefs. The honors of the occasion were given to four active members who have served for twenty-five years, namely: Frank E. Wiley, George A. Beers, William H. Conover and George Ernst, Sr. As an appreciation of their services these men have rendered to the community and the pleasant relationship that has existed between them and their fellow firemen, the quartet were presented each with a gold badge, handsomely engraved and bearing appropriate inscription. In addition to this recognition, each fireman was presented with five service stripes—one for each five years' of service.

Hose Company No. 1 was organized on July 2, 1900, and the four above mentioned were among the charter members, who were largely instrumental in organizing the Suffern Fire Department a few months later.



First and Second Floor Plans of the New Central Fire Station at Philadelphia.

When Considering New Apparatus

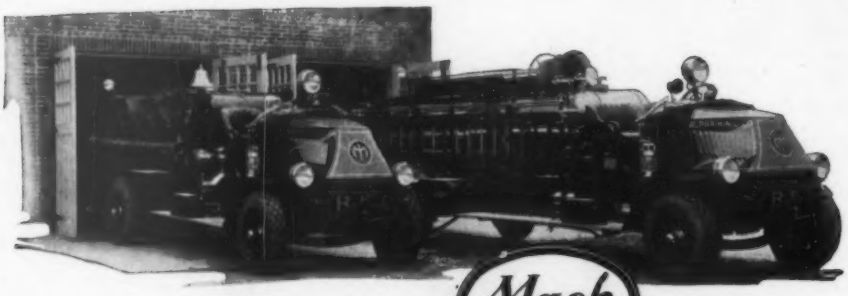
Remember that BUFFALO equipment is

1. Built to Your Order to Meet Your Particular Needs
2. Fully Guaranteed to Do the Work for Which Designed
3. Making-Good and Making Friends Wherever in Service
4. Designed by Experienced Fire Apparatus Engineers
5. Built by Skilled Workmen in a New Modern Factory
6. Constructed of the Finest Materials Money Can Buy
7. High Quality Fire Apparatus at a Reasonable Cost

May We Send You Complete Information?

BUFFALO FIRE APPLIANCE CORP.

Main Office and Factory, Buffalo, N. Y.



Another Mack Protected Community —Roosevelt, Long Island

Mack Fire Apparatus

The progressive village of Roosevelt, L. I., has recently added these two Macks with chemical tanks and hose to master a small blaze promptly and with water pumping capacity to quickly extinguish a fire that has gained headway. With ladders and tools for rescue and salvage work, they constitute a complete two-piece fire department.

Mack Fire Apparatus includes units for every fire-fighting purpose—for standard and special uses by the largest fire departments, and combination units designed for small town and rural service where dependence must be placed on one or two pieces of apparatus.

New York's fire department has over a hundred and fifty pieces of Mack motorized equipment—hose wagons, rescue cars, water towers, Mack-propelled steam pumps—all kinds of fire apparatus of standard and special design. Many other large cities and scores of small towns and villages depend on Mack.

MACK TRUCKS, Inc.
INTERNATIONAL MOTOR COMPANY
25 Broadway New York City

Fire Apparatus, Trucks, Buses, Rail Cars

One hundred direct MACK factory branches operate under the titles of: "MACK-INTERNATIONAL MOTOR TRUCK CORPORATION," "MACK MOTOR TRUCK COMPANY," and "MACK TRUCKS OF CANADA, LTD."

Before you buy new equipment, write for Catalog illustrating and describing the complete line of Mack Fire Apparatus.

PERFORMANCE COUNTS

"Shuredry" Salvage Covers

COST LESS—
WEIGH LESS—
MORE EASILY HANDLED

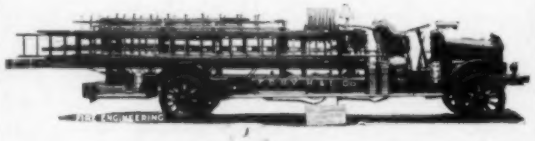
Chief Boyd, of the Knoxville, Tenn., Fire Department, has used "Shuredry" Salvage Covers for eight years. He says: "They are *waterproof, not affected by the weather, easy to handle, and altogether the most satisfactory covers we have ever used.*"

They do not freeze in winter, nor become tacky in summer. They are not subject to spontaneous combustion, nor to cracking where folded. One man can carry four up a ladder at one time.

Made in standard sizes. Write our nearest plant for samples and prices.

FULTON BAG & COTTON MILLS
Manufacturers since 1870
Atlanta, New Orleans, Brooklyn, St. Louis, Dallas, Minneapolis

Light and Heavy



City Service
Hook & Ladder Apparatus

We build any type of Apparatus required and can furnish High Grade Ladders in either Trussed or Solid Side types. Each Ladder is carefully made, ironed, and equipped for safety, strength and service.

Up-to-date FIRE FIGHTING APPLIANCES.

Write us when interested.

Combination Ladder Co., Inc.
381 Fountain Street Providence, R. I.

FALSE ALARMS

MUSICAL FIRE FIGHTING AGAIN

No subject which has for its object the saving of life and property has in recent years received such a volume of constructive suggestions as has the extinguishment of fire by music. Note, for example the following by H. I. Phillips:

Fireman! Fireman! Tune That Fork!

Recent demonstrations that it is possible to extinguish flames by the vibrations from tuning forks have the brave firemen of the country much concerned. Much of the glamor of fire-fighting passed out with the going of the fire horse. The rest of it will pass out, the fire laddies are certain, that day when all a fireman has to do to put out a fire is reach for the right fork.

* * *

"The next thing you know," said Hoseman Ambrose McGillicuddy, one of the best firemen who ever played pinochle, "a fire department will be made up of three or four orchestra leaders or music teachers.

"I wouldn't be surprised if scientists found a way to reach people in burning buildings by radio and bring them down invisible violet-ray ladders by means of the Einstein theory or something.

Possible Fire-Fighting Episode

Civilian (on phone)—Central, I wish to report a fire.

Central—What kind of a fire?

Civilian—O, a very nice one. You'd love it.

Central—Here's your party.

Civilian—Hello. Are you a fireman?

Fireman—Yes. I'm a wonderful fireman; in fact, I just held double pinochle twice in succession.

Civilian—There's a fire in my house and it's got to be put out at once.

Fireman—What key is it in?

Civilian—What key is what in?

Fireman—The fire. How can we put out a fire if we don't know what key it is in?

Civilian—O, to be sure. I forgot about the tuning-forks. Well, I think it's in the key of B sharp. I usually have my fire in that key.

Fireman—Well, you'd better be sure. I'll try "sol" in B sharp. There. Did it have any effect on the fire?

Civilian—I think the flames leaped a trifle higher. Suppose you try "mi."

Fireman—All right. Mi-mi-mi! How's that?

Civilian—It checked the blaze in the living room but not in the parlor.

Fireman—I'll just try "fa." "Fa-fa-fa-fa." Any results?

Civilian—No, I'm sure you picked up the wrong tuning-fork.

Fireman—O, hell. I'll get a hose and come over and put it out in the good old-fashioned way.

Twenty Years Hence
In the New York Herald Tribune

(News story of 1946, preconceived by E. P.)

Fire of unknown origin, which was described by Chief Kenlon as the worst of his career, threatened destruction of an entire waterfront block late last night. The watchman's alarm summoned to the scene String Companies 64 and 37, but the blaze had gained such headway that chamber music alone was insufficient and a second alarm was necessary, bringing out all the String and Brass Companies below 125th Street.

The fire was rapidly being checked on the east by the strains of Beethoven's Fifth Symphony and on the north by "Cross My Heart, I Love You, Mother," when a sudden shift of the wind and a light rain drove it to the south and caused a wholesale snapping of A strings. A third alarm was then turned in, bringing to the scene every available musician in the city, but it was only after Mozart's "Sonata in G Minor," a series of folk tunes and "Raindrops" (a pleasing duet) that the conflagration was finally declared under control. The injured:

Fireman George Egan, Tuba Company 21, ordered off duty when back draught dislocated both tonsils.

Fireman John Molloy, Brass Company 43.

Fireman Dennis Rourke, Saxophone Company 8.

Molloy and Rourke were trapped in a hallway while playing a duet, "Love Days." Rourke managed to reach the street, but Molloy had to be carried out by Fireman B. Berney, Drum Company 91, who fought his way through the flames with a Charleston beat.

Fireman George Tumulty, Brass Company 22, was severely bruised about the ribs while working on a narrow ledge by the trombone of a comrade.

The work of the firemen was greatly hampered by darkness, which made the reading of music impossible and necessitated playing by ear. The program for the next conflagration will be announced later.

THE GREATER GLORY

An excited throng watched the courthouse burn down. Two small boys apparently unmindful of the conflagration, were fighting each other, tooth and nail—there on the lawn.

"Here, here," interposed an old gentleman, "you boys shouldn't fight. Why aren't you watching the fire?"

"We're decidin' which of us saw it first," one of them panted.—*Life.*

An Englishman and an American were standing by the crater of a lively volcano in Honolulu. "You haven't anything like that in the States?" suggested the Englishman encouragingly.

"Mebbe not, but we gotta fire department in Chicago that could put it out," was the retort.—*Fishing Gazette.*

WANTED SERVICE

A fire was "working" on the second floor of a four story business block, whose upper floors were given over to apartments.

Upon the arrival of fire apparatus one fireman was assigned the task of arousing the tenants on the upper floors and getting them out, as it was midnight, and should the fire get away, there would be danger that some of them might be trapped.

There was no time for delay, as the halls were already filled with smoke, and the fireman went hurriedly along alarming the tenants.

He came to one apartment occupied by an elderly lady, who upon being appraised of the danger said "I couldn't leave without my trunk." The fireman quickly told her that there was no time to think of her trunk, whereupon she pitifully replied, "Oh! mister it's only a little trunk, you could carry it easily, won't you please take it down for me?"—*Chief H. J. Callahan, Fort Dodge, Ia.*

SIX DAYS WITHOUT FIRE, FIREMAN QUITS HIS JOB

TIFFIN, O.—Clang of fire gongs, the danger and the chance of heroism lured William J. Stein into the fire department.

For six days Stein anxiously awaited alarms—still, special or what have you. He chafed at the leash like a race horse at the barrier.

No alarms came to appease the thrill-seeking and conscientious Stein.

Six days of waiting proved too much. Stein quit the department to "go to work."

WINTER HINTS FOR VOLUNTEER COMPANIES

If that old coal stove doesn't keep your station warm, an excellent way to keep your radiator from freezing is to take it to bed with you every night.

Putting on the chains at the first drop minimizes the danger of skidding on slippery streets, but an even safer system is to park the car after the first pint.

If the motor coughs and wheezes when started on cold mornings, put three drops of gargle and a couple of cough drops in the gas tank.

Cold weather is hard on batteries. Have yours tested and filled frequently. If buying coal keeps your company broke, don't pay cash for your battery—have it charged.

Sometimes the starter will grind for five minutes without one cylinder showing a sign of life. This can be remedied by turning on the switch.

The difficulty in shifting gears on unusually cold mornings also can be overcome by unlocking the transmission.

If you must forget these little details, at least remember that too much oil will give your motor halitosis and cause your best friend to steer shy of your station.—*Adapted from instructions in Judge, by Chet Johnson.*

FIFTY-FIFTY

The following story, which has been going the rounds in different form since shaving was first invented has occasionally included a fireman as the principal thereof. Whether this be so or not, the story, nevertheless, bears repetition.

A razor maker received the following letter: Please send me one of your razors at 50 cents for which I enclose P. O. order for 50 cents.

P. S.—Have forgotten to enclose 50 cents, but no doubt a firm of your standing will send me one.

The reply: We beg to acknowledge your esteemed order and have pleasure in sending the razor which we trust you will like.

P. S.—Have forgotten to enclose razor, but no doubt a fellow with your cheek don't need one.

FIRE DEPARTMENT ACTIVITIES

New Apparatus for Greenport, N. Y.—A Dodge-Graham chassis on which was mounted fire equipment supplied by the American-LaFrance, has been delivered to Greenport, N. Y.

Fund Being Raised for Dayton, O., Band—More than $1,500 has been collected to finance the organization of a fire department band in Dayton, Ohio.

Sioux City, Ia., to Vote on Firemen's Wage Increase—On March 29, Sioux City, Ia., will vote on the proposed increase in the salary of the members of the fire department.

Site Selected for Welland, Ont., Station—A plot has been purchased for the construction of a new fire station in Welland, Ont.

New Bern, N. C., Elects Chief—James S. Bryan has been elected fire chief at New Bern, N. C., and is also building inspector.

Alton, Ill., Firemen Hurt—Three firemen were hurt and their apparatus overturned and smashed recently, when the apparatus collided with a touring car.

Omaha, Neb., Raises Firemen's Pay—The city council of Omaha, Neb., has voted an increase of $10 per month to the members of its fire department, except the chief.

Huntington, W. Va., Builds Fire Stations—The city of Huntington, W. Va., is about to build two fire stations at a cost of $21,000. They are to be occupied by new Seagrave equipment.

Decatur, Ill., Awaits Fire Apparatus—The department of Decatur, Ill., is awaiting delivery of three Seagrave pumpers—one 1,000-gallon and two 400-gallon "Suburbanite" pumpers.

Barton, Vt., to Have New Station—A contract has been awarded for the construction of the central fire station for Barton, Vt.

S. Jacksonville, Fla., to Increase Number of Men—Chief Smith of South Jacksonville, Fla., has added ten call men to the department.

Hospital at Knoxville Purchases Apparatus—New fire apparatus was delivered to the U. S. Veterans' Hospital at Knoxville, Tenn.

Filer, Ida., to Raise Pension Funds—The firemen of Filer, Ida., are sponsoring a dance to raise funds for the pension fund of the department.

Mott, N. D., Makes Madden Chief—At the annual meeting of the fire department of Mott, N. D., S. F. Madden was chosen chief for the current year.

C. N. Haynes Chief at Brownville, Minn.—C. N. Haynes has been made chief of the volunteer fire department in Brownville, Minn.

Dover, Del., Dines Retiring President—The Robbins Hose Company of Dover, Del., gave a testimonial dinner to W. Charles Boyer, the retiring president of the company.

John Moore Continues Chief at Martins Ferry, O.—The volunteer fire department at Martin's Ferry, O., has re-elected John Moore chief, and Frank Harris secretary. The old trustees were also again chosen.

Warietta, O., Wants Assistant Chief—The council of Warietta, Ohio, is urging the creation of the office of assistant fire chief so that one will be in charge in the event that the chief leaves the city.

Macon, Ga., to Buy Aerial Ladder—In reorganizing the Macon, Ga., fire department, chief Blanton announces the purchase of a 75-ft. aerial ladder truck. The old service truck will be located elsewhere.

Springfield, Mo., Adds Equipment—Chief William R. Price, of the Springfield, Mo., fire department, reports the purchase of three new American-LaFrance pumpers at a cost of $33,000. A new fire tower is now to be built.

Spokane Chamber of Commerce for Fire Prevention—The chamber of commerce of Spokane, Wash., are working in close harmony with the insurance interests of the city with a view towards furthering fire prevention measures.

New Pumper for Colorado Springs, Col.—A 1,000-gallon Ahrens-Fox pumper has been purchased by Colorado Springs, Col., for $13,550. Delivery of the apparatus is expected about May 1.

Fire Loss of Boone, Ia., Increased—The fire losses of Boone, Ia., have increased from $14,724 in 1924 to $57,882 in 1925. The number of fires have also increased—from thirty-three to forty-nine.

Bay City, Mich., Will Not Make Outside Runs—Unless Bay City, Mich., has some previous agreement with the individual or township guaranteeing payment for services performed, the city will not make outside runs in answer to fire alarms.

Deck Pipe Equipped Hose Car at Albany, N. Y.—Chief Fleming of Albany, N. Y., has equipped a hose car with two deck pipes and chemical tanks for use in the congested value district. If the apparatus is not needed at the fire it is returned to quarters and becomes the second section of Engine No. 4.

Fire Chief Resigns at Marion, Ind.—Burr Hamilton, assistant chief of the fire department at Marion, Ind., has tendered his resignation. He will become connected with the American-LaFrance Co., Sundry Sales department. Chief Hamilton has served twenty-five years with the Marion department, and his departure will be regretted.

Pittsburgh, Pa., Adds to Fire Payroll—Director of Public Safety James M. Clark, of Pittsburgh, Pa., announces that the city proposes to add $33,000 to the annual payroll. Seven additional battalion chiefs are to be added at $3,000 a year, three additional captains at $2,460, and the promotion of 53 senior lieutenants to captains, raising their salaries from $2,280 to $2,480.

Caution Saves Chicago Firemen—Fire Marshal Seyferlich and Deputy Marshal McAuliffe, recently saved a group of firemen from injury or possible death, by ordering them down from what seemed to be a perilous position. Hardly had they retreated when a shower of brick and mortar smashed down where they had stood a moment before. It was remarked that a similar incident happened a year ago, Marshal Seyferlich ordering his men away just in time to save their lives.

Winona, Minn., Improves Department—A number of improvements have been made in the fire department of Winona, Minn., in compliance with the recommendations made by the underwriters in an effort to reduce the insurance rates. Two 750-gallon pumps have been installed, each hose company has been provided with 1,000 feet of 2½-inch hose and minor equipment and salvage appliances have been added.

Fire Alarm Notes

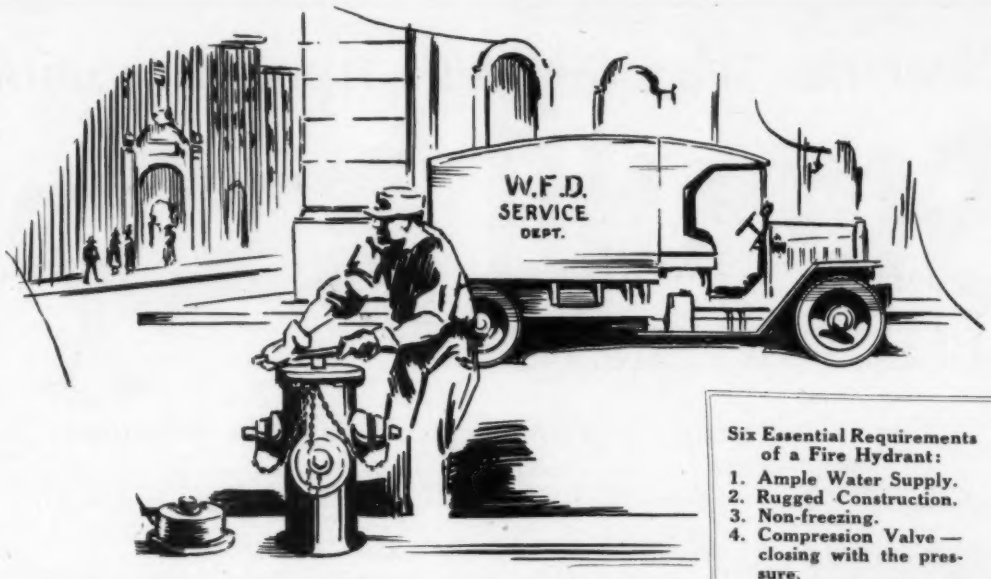
Schleswig, Ia., Has New Siren—The firemen of Schleswig, Ia., have purchased and presented a new electric siren to the city. It was purchased with the proceeds of a number of socials.

Additional Boxes to be Installed in Moline, Ill.—The city council of Moline, Ill., has placed an order with the Harrington-Seaberg Company for the installation of a number of new fire alarm boxes at the cost of $127.25 a box.

Corry, Pa., to Rebuild Fire Alarm System—Because of the high tension lines which are carried on the electric poles in close proximity to the fire alarm cables of Corry, Pa., it is necessary for the city to entirely rebuild the fire alarm system. An agreement has been reached whereby the fire alarm lines will be lowered on the poles so that there will be no danger of it coming in contact with the electric lines.

Detroit Considers Purple for Fire Alarm—Detroit is considering the adoption of purple lights for the fire alarm standards. Because of the large number of red lights for motor stop-signs, it is hard to distinguish the red light on the fire alarm box at night, and the change to purple was recommended. The box will be distinguished by a special type lamp with a purple lens on each side and the words "fire alarm box" will be placed on the post so that it will be readable three hundred feet.

Trouble in Geneva, N. Y., System Discovered—For a number of months, the fire alarm system of Geneva, N. Y., was not working properly. By placing a man in the bell tower to watch the operation of the mechanism when the alarm was turned in, it was discovered that some of the coils operating the apparatus had become rusted through and had lost their strength. When an alarm was turned in, there was only sufficient energy to strike the bell once or twice. New coils have been installed and the system is operating as it should.



Six Essential Requirements of a Fire Hydrant:

1. Ample Water Supply.
2. Rugged Construction.
3. Non-freezing.
4. Compression Valve — closing with the pressure.
5. Minimum Maintenance. All inside parts, including seats, removed through top of hydrant. ✓
6. Adaptability to Installation Changes.

What Does the Fire Chief Ask Himself When About to Buy Fire Hydrants?

Minimum Maintenance ✓

It may not be necessary to touch a Darling Fire Hydrant for a long period of time, but sooner or later the emergency will arrive.

Unlike other hydrants, the complete take-down, inspection and assembly is a one-man job. Every part is accessible through the top and is interchangeable. This advantage permits overhaul of the entire system at one-half the usual time.

The operation is extremely simple. Take off cover by removing six bolts. A few turns of a seat-wrench permits the removal of all internal parts, including pressure valve, valve seat, gasket, drip valve and drip valve seat for examination and repairs.

The Fire Chief knows what an economy this means, and it's one of the reasons why more cities, every day, are adopting Darling Hydrants as standard equipment.

DARLING VALVE & MANUFACTURING CO.

Williamsport, Pa.

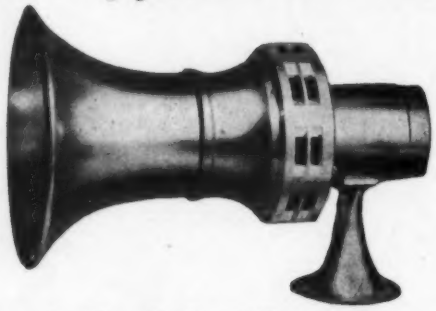
NEW YORK
CHICAGO
OKLAHOMA CITY
HOUSTON

DARLING
FIRE HYDRANTS

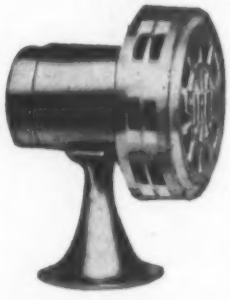
Clear the Way for Your Apparatus with

SIRENO

ELECTRIC SIRENS



Their Penetrating, Wailing Screech Can't be Mistaken



The distinctive far reaching screech of Sireno electric sirens will open up the heaviest traffic far ahead for your speeding apparatus. They will prevent collisions and costly delays in reaching fires, and so protect your men from accidents and help you cut down fire losses.

There is a Sireno of the right type and size for every fire department need—for heavy apparatus, chiefs' cars, motorcycles, and street traffic control.

Back of every one of these Sireno electric sirens is over 17 years' experience in designing and manufacturing small electric sirens exclusively. Their distinctive and penetrating sound, compact design and rugged construction have made them standard for fire department service for many years. It will pay you to replace old sirens with Sirenos and to order them on all new apparatus.

May We Send You Complete Information?

The SIRENO COMPANY, Inc., Staten Island, N. Y.

Two Books of Practical Value

to every fire officer interested in up-to-date methods and equipment

The New York Fire College Course

$1.50 a Copy—By Mail, $1.65 Postpaid

Comprising an abstract of the advanced practical instruction in up-to-the-minute Fire-Fighting methods given officers of the N. Y. Fire Dept. Fire Chiefs in cities, large or small, are increasing the efficiency of their men by placing this valuable book in every station. And with its help, too, fire department officers and men, studying for promotion, are easily winning top marks at examinations.

Explains in Clear Understandable Form—

Fire department tools and the most effective way of using them. Proper way to raise ladders and place apparatus. Building inspection, including sketches of buildings and points to cover in fire prevention and inspection work. Dwelling fires, and how to handle them. Apartment house fires, and how to fight them. Tenement house fires, and how to fight them. Office building fires, in old and new buildings; how to place apparatus and how to handle fires. Overhauling at fires, and wetting down fires without excessive water damage. Chemicals used with in fire service, and precautions to take. Chemical and electrical fires. Oil fires and varnish fires.

What Every Fire Fighter Should Know

$2.50 a Copy—By Mail, $2.65 Postpaid

Comprising a reprint of the famous series of articles which appeared in FIRE AND WATER ENGINEERING during 1921 and 1922, under the same title.

This book is brimful of authoritative data covering the various phases of fire protection, and should serve the progressive fire chief interested in scientific fire-fighting methods as a valuable reference guide. It also gives to ambitious fire department officers and men, in simple, understandable form, the kind of information that will be found extremely helpful in preparing for promotional examinations. Contains more than 300 pages. Cloth bound.

Some of the Subjects Thoroughly Explained

Practical hydraulics. Fires and How They Should Be Handled. Fire Streams. Fire-Fighting Administration. Drills and Training Hazards of Industries. Fire Extinguishers. Oil Storage Hazards. Electrical Fires. Care of Fire Hose. Auxiliary Fire Appliances.

You Will Find These Books Worth Many Times Their Price. Order Today!

Book Department
FIRE ENGINEERING
225 West 34th St., N. Y. C.

Please send me ..... copies of "The New York Fire College Course" and ..... copies of "What Every Fire Fighter Should Know" for which I enclose a money order for $.....

Name.....Rank.....

Address..... ..... Date.....

Proposals for Fire Alarm System

MAMARONECK, NEW YORK

Bids opened March 30, 1926.

NOTICE IS HEREBY GIVEN that sealed bids will be received by the Town Board of the Town of Mamaroneck, Westchester County, New York, on March 30th, 1926, until 4 p. m., at the office of the Town Clerk, 8 Elm Street, Village of Mamaroneck, New York, at which place said bids will be opened, for:

1. Furnishing materials and performing labor required for erecting one complete Fire Alarm System at the Weaver Street, Fire, House, Edgewood Road, and Weaver Street, Town of Mamaroneck, New York, all in accordance with "Specifications for Fire Alarm System for Weaver Street Fire House, dated March 8th, 1926." now on file at the office of the Town Clerk at the above address, and

2. For furnishing materials, and performing labor required for erecting one Fire Alarm System at the Weaver Street Fire House, Edgewood Road and Weaver Street, Town of Mamaroneck, New York, in accordance with Specifications for Fire Alarm System for Weaver Street Fire House, dated March 8th, 1926, complete, except with the omission of Air Compressor Unit, being items 11 and 12 in Paragraph Three, parts to be furnished by the contractor of the specifications, which items will be provided by the purchaser, all in accordance with the aforesaid specifications now on file at the office of the Town Clerk at the aforesaid address.

Copies of the Specifications may be inspected and obtained at the office of the Town Clerk from March 16th, 1926, and every day thereafter from 9 a. m. to 4 p. m. Saturdays excepted, upon depositing $2, which sum will be refunded upon the return of the Specifications in good condition within ten days after award of the contract, or else the entire deposit will be forfeited.

Information regarding the same may be obtained at said office during the same period.

Each bid must be accompanied by a bid bond from a reliable security company or a certified check to the order of the Town of Mamaroneck for 5 per cent of the amount of the bid, the liability on such bond to accrue or the amount of the certified check to be forfeited in case the successful bidder shall refuse to enter into the contract in accordance with the bid.

The successful bidder or bidders will be required within seven days after the award of the bid to furnish and file with said Board in such form and with such insurer and guarantor as the Board may approve, policies insuring the Town of Mamaroneck against any loss or damage resulting either directly or indirectly from or during the transaction of the work provided for under this contract or contracts and a bond in the amount of the contract guaranteeing the faithful performance of the contract.

The Town Board reserves the right to consider bids until April 7th, 1926, before awarding the contract and the right is reserved to include or exclude any alternate system called for herein, if any, as may be determined by the Board to reject any or all bids or to accept any bid or bids which the Town Board should deem advantageous to the Town of Mamaroneck.

By Order of the Town Board of the Town of Mamaroneck.
March 12, 1926.

GEORGE W. BURTON,
Supervisor.

FREDERICK M. SHERMAN,
Town Clerk.

3-25

News Items

FIRE AND WATER ENGINEERING

in order to maintain its position as the mouthpiece of the water supply and fire protection fields, must depend in part upon you, our readers, to supply live news items about the affairs with which you are connected. Your activities will interest others. Send in your news items. 225 West 34th St., N. Y. C.

Proposals for Fire Hose

CLIFFSIDE PARK, N. J.

Bids opened March 29, 1926.

Sealed proposals for furnishing One Thousand (1,000) feet more or less of fire hose will be received by the Mayor and Council of the Borough of Cliffside Park, N. J., at the Borough Hall, Palisades and Jersey Aves., on Monday, March 29th, 1926, at 8:30 p. m.

Hose to be two and one half inch, rubber lined, double jacket, 400 lbs. To be furnished in 50 foot lengths with couplings to weigh not less than six lbs. each and to be stamped with the name of town and date and threaded to fit present equipment. Hose to weigh not more than fifty-six pounds or less than 52 lbs. per fifty foot length. Elongation not to exceed thirty-six inches and twist not to exceed one turn in fifty foot lengths at one hundred to three hundred pounds pressure. To be guaranteed to four hundred lbs. pressure for three years. Sample of hose to be submitted with bid.

The Mayor and Council reserve the right to reject any or all bids. Attest 2-8-26.

Arthur H. Abrams, Boro Clerk.
Joseph W. Marini, Mayor.

Proposals for Fire Apparatus

CHARLESTON, S. C.

Bids opened March 25, 1926.

Sealed proposals in duplicate will be received at the office of the Purchasing Agent, until 12 noon, Thursday, March 25th, 1926, for supplying Two (2) Triple Combination Motor Fire Apparatus for the fire Department. All proposals must be submitted in regular proposal forms covering specifications, copy of which may be had upon application to the Purchasing Agent, at his office, City Hall.

Right is reserved to reject any or all bids.

JOHN H. RENKEN,
Acting Purchasing Agent.

For Sale
Triple Combination

American-LaFrance model. Rated capacity, 750 gallons. Address Box 116, FIRE ENGINEERING, 225 West 34th St., New York City, N. Y. 2-10, 3-10, 3-25

CONVENTION DATES

March 26—NATIONAL FIRE WASTE COUNCIL. Spring Meeting, at headquarters, Chamber of Commerce of the United States, Washington, D. C., at 10 a. m.

March 30-31—FLORIDA STATE FIREMEN'S ASSOCIATION. Annual Convention, Palatka, Fla. Secretary, Chief F. C. Pfaender, Winter Haven, Fla.

April 1—INDIANA FIREMEN'S ASSOCIATION, Directors' Meeting to set date of Annual Convention, Marion, Ind. Secretary, Frank H. Miller, Fire Headquarters, Terre Haute, Ind.

April 5—NORTHWEST ARKANSAS FIREMEN'S ASSOCIATION—Quarterly Convention at Eureka Springs. F. M. Brock, Secretary-Treasurer, Bentonville, Ark.

May 10–13—NATIONAL FIRE PROTECTION ASSOCIATION (International). 30th Annual Meeting, Atlantic City. N. J. Secretary, Franklin H. Wentworth, 40 Central St., Boston, Mass.

June (date not set)—SOUTHERN NEW YORK VOLUNTEER FIREMEN'S ASSOCIATION. Annual Convention and Tournament, Islip, N. Y. Secretary, August Kalb, 27 N. Center Ave., Rockville Center, N. Y.

June 8–10—HUDSON VALLEY VOLUNTEER FIREMEN'S ASSOCIATION. 37th Annual Convention, Port Jervis, N. Y. Secretary, Chief Chris W. Noll, Fire Department, Poughkeepsie, N. Y.

June 9–11—MARYLAND STATE FIREMEN'S ASSOCIATION, 34th Annual Convention, Westminster, Md. Secretary, George R. Lindsay, Hagerstown, Md.

June 10–12—ARIZONA STATE FIREMEN'S ASSOCIATION. 3rd Annual Convention, Prescott, Arizona. Secretary-Treasurer, Chief W. J. Nemeck, Douglas, Ariz.

June 22–24—NEW ENGLAND ASSOCIATION OF FIRE CHIEFS—Fourth Annual Convention, Hotel Carpenter, Corner Merrimack and Franklin Sts., Manchester, N. H. Exhibit Hall, New Watertown, Mass. Chairman, Exhibit Com., Chief Henry H. Heitman, Waterbury, Conn.

July 14—DELAWARE STATE VOLUNTEER FIREMEN'S ASSOCIATION. 6th Annual Convention, New Castle, New Castle County, Del. Secretary, Sam H. Carson, Dover. President, Geo. Clifton Maull, Lewes.

July 21–22—CENTRAL NEW YORK VOLUNTEER FIREMEN'S ASSOCIATION. 33rd Annual Convention and Parade, Endicott, N. Y. Secretary, Millwood Fitch, Moravia, N. Y. Secretary, Local Committee, Floyd L. Jackson, Endicott.

July 27–28—WESTERN NEW YORK VOLUNTEER FIREMEN'S Association. Annual Convention, Kenmore, N. Y. Secretary, Henry A. Clark, 21 Porter Ave., Batavia, N. Y.

Aug.—CENTRAL PENNSYLVANIA VOLUNTEER FIREMEN'S ASSOCIATION. Annual Convention, Tyrone, Pa.

Aug. 9-14—WESTERN PENNSYLVANIA FIREMEN'S ASSOCIATION. 33rd Annual Convention, New Kensington, Pa. Secretary, Secretary Convention Committee, R. A. Kanouff, New Kensington.

Aug. 17-18—CONNECTICUT STATE FIREMEN'S ASSOCIATION. 43rd Annual Convention, Elks' Home, Washington St., New London, Conn. Secretary, D. W. Harford, South Norwalk.

Aug. 17-19—FIREMEN'S ASSOCIATION OF THE STATE OF NEW YORK, 55th Annual Convention, Alexandria Bay, N. Y. Secretary, Fred A. Davis, Fort Edward, N. Y.

Sept.—KANSAS FIRE CHIEFS AND FIREMEN'S ASSOCIATION. Tentative Month of Annual Convention, at Manhattan, Kan. Secretary, Chief K. D. Doyle, Wamego, Kan.

Sept. 14–15—IOWA STATE FIREMEN'S ASSOCIATION, 49th Annual Convention, Manning, Ia. Secretary, E. E. Parsons, Marion.

Sept. 27–29—ARKANSAS STATE FIREMEN'S ASSOCIATION. Annual Convention, Jonesboro, Ark. Date of meeting tentative. H. S. Compton, secretary. Central Fire Station, Little Rock, Ark.

Oct. 5–7—FIREMEN'S ASSOCIATION OF THE STATE OF PENNSYLVANIA. Annual Convention, Philadelphia, Pa. Secretary, Charles F. Clark, 411 Bellevue Avenue, Wayne, Pa.

Oct. 12-15—PACIFIC COAST ASSOCIATION of FIRE CHIEFS. 33rd Annual Convention, Fresno, Cal. Secretary, Chief Jay W. Stevens, 1014 Merchants Exchange Building, San Francisco, Cal.

Oct. 19–22—INTERNATIONAL ASSOCIATION OF FIRE ENGINEERS, 54th Annual Convention, Hotel Roosevelt, New Orleans, La. Secretary, Chief James J. Mulcahy, Yonkers, N. Y.

Salvage Work in Fire Departments

(*Continued from page* 290)

of salvage work. We have at our command in this department 1,450 men, any one of whom is potentially a salvage man. Salvage companies when operated by insurance companies have no such reserve to draw on, and there is the ever-present danger of such companies suddenly going out of service on this account. Friction does not occur where all the men are subject to the same regulations and under the same discipline. Personally, I would very much prefer to assume the direction of salvage men than to have that crew operating in conjunction with my department at fires, by whatever agency they might be directed. Fire fighting involves enough uncertainties at best, and to my mind the presence of several independent agencies at such a time is productive of and encouraging to difficult situations.

Equipment of Salvage Companies

For such benefit as it might be to other chiefs who contemplate the establishment of this auxiliary in their respective departments, I deem it proper to give below the specifications under which our covers were purchased, also the equipment carried by our salvage companies, which vary in slight degree owing to the physical arrangement of the trucks and bodies (Stutz, Mack and White Chasses). The Goodyear Tire and

Rubber Company has furnished all our covers, and the performance of the covers has been all that could be expected.

MATERIAL—Rubber coated, cotton duck.

SIZE—12 feet by 18 feet, tolerance 1 inch plus or minus in either width or length or both.

WEIGHTS—The finished weight of a cover frictioned both sides, coated one side, shall be not less than 28 pounds, nor more than 33 pounds per cover.

COTTON FABRIC—To be of clean cotton duck, free from knots, dropped threads or other imperfections in weave. Fabric to weigh not less than 7½ ozs. per sq. yard.

WEAVE—The weave of fabric, or count of warp and filler threads per inch to be approximately the same in either direction with any difference in count to be in favor of the warp. The strength of the unprocessed fabric shall be determined by the "A" test method, as specified in Bureau of Standards report No. 68. The strength of the warp or filling shall be not less than 100 lbs. per inch of width in warp and 8-pounds in the fill.

RUBBER COATING—Covers frictioned both sides, coated one side shall have a coating which shall weigh not less than 10 ozs. per sq. yd. and not more than 12 ozs. per sq. yd. The rubber to be black, bloomed finish, without varnish or other wash. The first application or friction coat shall be calendered and penetrate into the interstices of the weave, showing through on the reverse side. The finishing coat shall be smooth and free from surface imperfections. These covers as stored for use will be so folded as to create many angles, corners and folds. The rubber coating must not crack, check or peel, due to this folding.

SEAMS—Seams shall not be more than two in number and must not be butted, but must be lapped not less than one inch and are to be in the direction of the greatest length of the cover. All seams are to be cemented.

EDGES—All edges must be hemmed by turning back the fabric on itself for a distance of 1¼ inches, and be cemented in place.

GROMMETS—Each cover shall have 22 brass grommets, No. 3 spur type, to be placed two on each corner, four on each side, and three on each end of the cover, spaced as shown in drawing, which may be seen at the office of the Fire Department, No. 217 So. Hill St.

CORNERS—The corners are reinforced on the reverse side, under the edges, by means of a 7½ inch triangular piece of the same material as the cover, as shown on the drawing. To any one corner piece shall be permanently fixed the label of the manufacturer, showing the month and year of the manufacture of the product.

TESTS—Not less than ten per cent of all deliveries to be tested as follows:

Covers picked at random shall be spread in a manner simulating service conditions, rubber surface side up with a portion including a seam. In this shall be placed not less than 30 gallons of water at a temperature not exceeding 180 deg. Fahr. After 24 hours, no dampness shall be apparent on the under side of the cover.

One or more covers picked at random shall be spread in a manner simulating service conditions, rubber service side up, with a portion including a seam forming a bag. In this shall be placed not less than 30 gallons of water at a temperature not exceeding 180 degrees. After 24 hours, no dampness shall be apparent on the under side of the cover.

Covers when folded or spread in the usual manner, shall be pliable and free from sticking or cracking.

The foregoing tests shall be made within a period of fifteen days following the receipt of each shipment at point of destination, and the contractor shall be notified of the results of the above tests immediately following the completion of same, contractor reserving the right, within fifteen days following such notification, to call for a re-test in the presence of his representative. Report of partial examination on any covers not complying with these specifications shall be considered as without prejudice to balance of shipment.

Failure to notify seller within twenty days from date of receipt of any shipment that all or part of said shipment is considered subject to rejection will be an acceptance of such shipment subject to warranty.

Any shipment of which ten or more per cent shall upon test prove defective will give the purchaser the right to reject the entire shipment.

Failure by the seller to make replacement shipment from their factory within thirty days after final notice of rejection of any shipment or part of any shipment rejected for non-compliance with specifications, will give the buyer the right to purchase such quantity of covers upon the open market and any excess in cost will be paid by seller.

WARRANTY—The contractor shall warrant all covers furnished under this specification to be waterproof and to meet the test requirements; and shall agree to replace any covers which develop defects, within a period of thirteen months after the month and year indicated on the cover corner label.

QUOTATIONS—Quotations shall be understood as applying to these specifications.

For the City of Los Angeles, Fire Department, Store Room, No. 227 Aliso Street.

Equipment of Stutz Chassis

The following is list of equipment carried on Salvage Companies Stutz Chassis:

1 Detroit door opener
2 12-pound sledge hammers
1 12-volt flashlight
2 Pyrene guns
2 Axes
1 3-gal. Foamite extinguisher
2 Dietz lanterns
1 3-gal. Phister pyrene gun
2 Large pinch bars
1 20 ft. extension ladder
2 10 ft. Peerless eveready ladders.
65 Covers on the wagon, size 12 x 18, weight 32 lbs.
60 Covers in reserve
3 L. A. F. D. Squeegees
6 Sprinkler heads
6 Brooms
4 Scoop shovels
4 Mops
4 Water buckets
6 Sprinkler heads shut off
1 No. 2 Combination wrench
1 14 inch Stilson wrench
1 Small pinch bar
1 100 ft. ⅝ inch rope
2 Hatchets
2 Claw hammers
1 Roll of roof paper
1 Yale lock and keys
2 Hasps
½ Box of ten penny nails
2 Hose spanners
100 "S" Hooks for hanging covers
4 Pocket flashlights
1 Fox lock breaker
1 Soil pipe strainer
2 Burrell gas masks
2 Hanks of sash cord
1 First aid kit
1 2 inch auger
6 Fuses
2 Sacks of sawdust

Equipment of White Chassis

The following equipment is carried on Salvage Companies, White Chassis:

1 2-ton White 4 cylinder 29 H.P., 4¼ in. bore, 5¾ stroke
1 First aid kit
1 Hydrometer
6 Fuses
5 Hand flashlights
2 Sponges and chamois
1 Kit of tools
2 Pinch bars
1 10-lb. sledge hammer
1 Axe
2 1-qt. pyrene guns
1 Phister pressure pyrene gun
3 Drain helmets
1 2-in. auger
1 2½ gal. Foamite
1 Detroit door opener
1 Crow bar
2 Burrell Gas masks
1 New York lock breaker
2 Hatchets
2 Hammers
4 Spanners
1 Combination plug wrench
1 Lesinsky drain pipe
6 Sprinkler heads
3 lbs. 4 penny nails
6 Water buckets
4 Mops
2 Scoop shovels
6 Brooms
4 Squeegees
2 Grether hand lamps
2 Sacks of sawdust
1 Roll roofing paper
65 Rubber covers, size 12 x 18
1 Canvas cover, size 12 x 18
1 Weather cover
2 10-ft. folding ladders
1 Dietz lantern
2 Yale locks and keys
1 Extra tire, size 36 x 6 and disc wheel
100 Salvage hooks
100 ft. ¾ inch Manila rope
(In reserve) 85 rubber covers, size 12 x 18. 6 sacks of sawdust.

Chief Scott on Work of Salvage Corps

In his annual report for 1925, referring to the Los Angeles Fire Department Salvage Corps, Chief Scott says:

"I am pleased to report that the salvage companies of the department, of which there are now three, have proven to be the success anticipated, and to these I would add additional companies as finances permit. Waterproof covers to protect merchandise, furniture and other valuables are carried on all ladder trucks in the Los Angeles fire department, so that wherever a fire occurs it is usually possible to utilize this type of protection against water damage. A substantial portion of the reduced annual loss is attributable to the protection of perishable goods which has been afforded by the use of the covers. The companies equipped exclusively for salvage purposes are located at 217 South Hill street, 204 Hewitt street and 644 South Figueroa street. This gives a fair amount of protection to the high value commercial district in this respect, and in the absence of outside companies, the salvage equipment carried by the trucks is used to the best possible advantage.

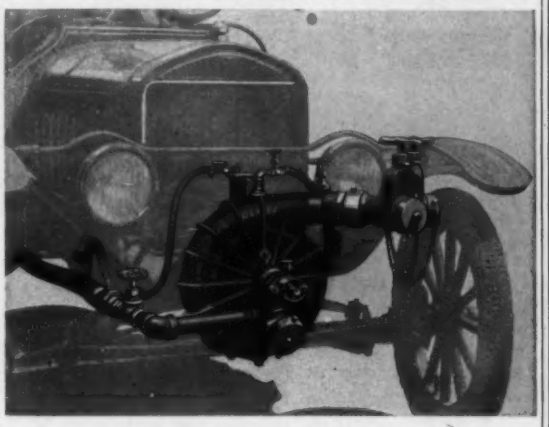
"The mountainous districts of the city, comprising the area west of the San Fernando Valley for practically its entire length, is now patrolled by eight members of the department, selected for that duty on account of their responsibility and particular qualifications therefor. Two fire patrol stations have been built along Mulholland Highway at strategic points, where are located trucks containing shovels, brush hooks, canteens, and other fire-fighting equipment. At twenty-four points along this highway there are located supply boxes, also containing similar equipment. Under the present salary ordinance, I am allowed to employ civilians in the emergency of fire in the mountains, and arrangements have been made with a leading motor transportation company whereby at a moment's notice all their available equipment can be thrown into the fire service in the transportation of fire-fighters and supplies. Fire breaks have been cut through the mountains at various points, trails and roads built. A Lookout station on Mt. San Vicente, the highest point in the range, is on duty every day in the year for the detection of fires in their incipiency."

Milwaukee, Wis., to Reward Fireman Inventor—Louis Kedig, blacksmith for the Milwaukee, Wis., fire department, may receive nearly $10,000, an amount the city has saved during the past 23 years through a quick-hitch device which he invented.

San Francisco Equips Fireboats with Radio—That three new fire companies be organized and that fireboats be equipped with radio are among the recommendations of the San Francisco, Cal., grand jury, just made public.

Every Fire Alarm System should be protected against lightning and short circuits by VAC-M Arresters. They pay for themselves over and over by the trouble they prevent. May we send complete information? The National Electric Specialty Co., Toledo, Ohio.

A Practical Portable Fire Pump



The BARTON
PORTABLE FIRE PUMP

FEATURES:
Automatic Primer
Patented Power take-off
Open type impeller
Centrifugal type
Sturdy Construction

This portable fire pump will furnish abundant capacity from any source of water supply. It is exceptionally valuable as a "Booster," for it increases the efficiency of the hydrant stream 100 percent. Every town and village can have adequate protection at low cost.

Write for Bulletin

AMERICAN STEAM PUMP CO.
Battle Creek, Michigan

The "Fyre-Foe" Twin Pumper

for Fords

provides adequate fire protection at a fraction of the cost of big apparatus, and is ideal for small towns and communities.

Send for complete details.

Jaeger Portable Power Corp.
Woodbridge at Rivard, Detroit, Mich.

The Perfect Satisfaction and economy of wearing the

"FAMOUS KALAMAZOO"

Firemen's Uniforms has been proven by thousands of firemen. Catalog F501 will tell you all about them.

The HENDERSON-AMES CO.
KALAMAZOO, MICH.

Eastman
Nozzles and Deluge Sets
Are Designed by Engineers

who, for over thirty years, have specialized in equipment for producing superior fire-fighting streams in all sizes unsurpassed for solidarity, distance and effectiveness, and safely handled under all pressures.

Write for Catalog

Samuel Eastman Co.
Concord, N. H.

When in the Market for New Equipment

please write us and we shall be glad to have the right manufacturers provide you with complete specifications and prices for your consideration. This service won't cost a cent nor place you under any obligation whatever. We just want to cooperate both with you and with manufacturers in every possible way.

FIRE ENGINEERING
225 W. 34th St., N. Y. C.

HALE PUMPS ARE
Accurately built — Thoroughly tested

HALE FIRE PUMP CO., INC.
Conshohocken, Penna.

New Victor Gas and Fume Mask

Better Rubber. Longer Life. Better Fitted. Moulded to Fit the Face. Better Vision. Renewable Lenses. Better Air. Better Work. Low Prices. High Quality.

Over 5,000 Victor Gas Masks in Service

Full Line Fire Dept. Supplies and Equipment.

New 43 Edition Catalog on Request

The Woodhouse Mfg. Co., Inc.

35 Warren St., New York

D. A. Woodhouse, Pres. and Gen. Mgr. — George J. Kuss, Vice-Pres. and Treas.

JOHN H. CLAY, INC.

1320 Ridge Ave., Philadelphia, Pa.

Established 1864

Clay Automatic Door Spring Devices for fire stations save valuable minutes in getting to fires. Write for details.

The STOUGHTON

Community Fire Fighter is Designed Especially for Small Towns

Fire apparatus for volunteer and small town fire departments must be designed, built and equipped to meet particular requirements. It must be a combination of several distinct types built for city use. It must be complete in every detail.

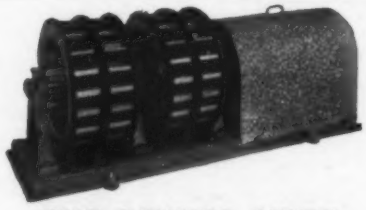
The Stoughton, the *Original Community Fire Fighter*, is designed to meet these requirements and made in three sizes,—300—350 and 500 gallon capacities. Each model and every piece of apparatus guaranteed to pass the National Board of Fire Underwriters' twelve-hour pumping tests.

May We Send Complete Information?

STOUGHTON WAGON COMPANY

FIRE EQUIPMENT DIVISION, STOUGHTON, WIS.

STOUGHTON FIRE APPARATUS CO., 250 W. 57th St., New York City, Eastern Representatives



THE DENVER SIREN

Now used in 43 of the United States, Canada and abroad.

Motor driven on any electric circuit.

Write for Special Bulletin

Hendrie & Bolthoff Mfg. and Supply Co.

Denver — Colorado

Beat the Fire to it with an ERICK ELECTRIC SIREN

30 Days Free Trial

For Volunteer Fire Departments in towns of from 300 to 5,000 population, there isn't a Siren or a system in the world to equal the Erick. Night and day—year in and year out—it offers best protection to lives and property. The Erick is the only Siren using one big whistle on a powerful 3 and 5 h. p. motor which throws its sound evenly in all directions—louder and more penetratingly than all others. Write for full information and details of liberal 30 Day Free Trial Offer.

Erick Electric Siren Co., Inc.

95 S. Wabasha St., St. Paul, Minn.

MORSE

FIRE BOAT EQUIPMENT

Invincible and Callahan Nozzles

Fire Department Supplies

are in use throughout the country and giving unsurpassed service.

Every fire official should be fully acquainted with Morse equipment and have our catalog and other descriptive literature on file for ready reference whenever considering the purchase of new equipment.

You will find that it pays.

Write for Catalog

Andrew J. Morse & Son, Inc.

221 High St. Established 1837 Boston, Mass.

HAHN

Motor Fire Apparatus

Write for literature and prices on our 250, 350, 500 and 750-gallon triple combinations, chemical and hose combinations and city service trucks.

Hahn Motor Truck Co.,

Hamburg, Pa.

ATTENTION!

FACT NO. 1

The Rensselaer Type of Improved "Corey" Fire Hydrant delivers the most water of any on the market.

Ask for prices and details

FILL IN AND MAIL TO

RENSSELAER VALVE CO., Troy, N. Y.
Send me Hydrant Book, No. 9.

Name .....

Street ..... City .....

Increasing Efficiency of Fire Apparatus

(*Continued from page 288*)

the answer is not favorable, steps should be taken at once to make your department perfect in all these respects.

Fortunately the great majority of fires are discovered in their infancy and promptly extinguished. Most of these small fires, if not properly handled, would quickly develop into large fires and become conflagrations. When your department responds to an alarm you expect to fight either a small roof blaze which is best handled by the quick use of a hand chemical, or a large building already a roaring furnace and endangering surrounding property. To win such a battle and save the neighboring buildings, it requires the greatest generaling of men, water lines and apparatus. Such a fire would certainly be very different from any other large fire in your city. Experience alone will not tell just how to attack that fire in the most efficient manner. Sound judgment and quick thinking are required not only by the Chief in charge but by each officer and by each individual fireman. Most of us cannot think as logically in the midst of the frenzied excitement of a big fire as before we go to the fire and the Chief cannot be everywhere at once to direct the operation of each stream. The detailed plans for attack can best be worked out before the fire occurs so that each fireman will know just what to do and will have practiced doing just that thing so that the most can be accomplished with the men and apparatus available.

Necessity for Training and Keeping Fit

Everyone of us enjoys the great American game of baseball, and some of us secretly believe that we could play fairly well if we had the time and opportunity to practice with a team. The men who have won fame and fortune as big leaguers and even those on the minor league teams are real athletes and are skilled in the game. Why do the big owners spend so many thousands of dollars taking their teams south to winter training quarters every year? The better the players the more money and effort is spent on their training and the more they study and practice together during the season. There is some reason for it. Apparently it isn't because those high-paid men do not know the game. Isn't it because even the best men must keep in condition and because baseball playing is largely precise team work? The various plays and the opponent's many possible plays must be studied out very carefully, the proper offense and defense be decided upon and then these plays practiced over and over again until each man plays his part perfectly every time. Why don't fire departments have to select the best men available, study the methods of attack to be used against various plays of their opponent, fire, and then practice these attacks over and over until they can be executed perfectly? The answer is very definite. Fire departments do have to follow the same program as the ball team in order to be successful. Unfortunately the majority of fire departments do not follow that program and those departments have either been awfully lucky or else have had or will have a big fire in their city that they are not proud of.

Theory and Practice Both Needed in Drills

The program for developing a highly efficient fire department is exactly the same as that for turning out a championship big league ball team. After the best men are obtained there are two steps to be taken. First, the various plays or methods of attack must be studied, and in fire fighting as in baseball, a different method must be used for each possible play that the opponent might make. When fire is the opponent there are hundreds of plays that he might use and scores of them that are contrary to all of the adopted rules. After these many plays or attacks have been decided upon the department, like the ball team, must go into the back yard, on the street, to some friends building or some similar training quarters and with their pumper, ladders, hose and other equipment fight an imaginary opponent with the attacks that they have worked out. Baseball practice is held every day. Fire drills should be held at least once a week in volunteer departments and daily in full-paid departments.

The proper methods of fighting various fires can be best decided upon at meetings held during the regular drill periods, in cold and bad weather when outside work is not advisable. Volumes of very valuable information on all phases of fire fighting are available at little or no cost. As much of this reading matter as possible should be available for all firemen at their engine houses and they should use their spare moments to study it. Maps should be obtained showing the fire hydrants and the size of water mains, and studies be made of the pressures and amounts of water available at the various hydrants. Every fireman should know the simple facts about the size of nozzle to use for certain fires with certain lengths of hose and hydrant pressures. Sketches should be made or maps obtained of each business block showing each building in that block, its walls, stairways, elevator shafts and which hydrants would be used to check a bad fire in that particular building.

Life saving, first aid, fire prevention, ventilation, the care of apparatus and equipment, the use of various fire tools, the operation of the private automatic sprinkler systems and many other functions of the up-to-date fire department should be studied and mastered. Large and small departments which have no such real drill school at present should send a qualified member to the school of one of the larger cities, and upon his return place him in charge of an organized school and to be responsible to the Chief for the knowledge of the department of the fundamentals of fire fighting.

Studying Actual Fire Fighting Plans

These plans for fighting the various types of fires which might occur in any particular building should be actually carried out. The apparatus should be taken out, pump connected, ladders raised, hose taken over the top or fastened to the ladders, water turned on, life rope, life belt and life net used, and all other maneuvers made that might be necessary to properly handle any type of fire. Raising a long heavy ladder, carrying a hose line over its top, playing a stream from a long ladder, using the pompier ladders, carrying a man down the ladder or fire escape, sliding the life rope and actually doing the many things that an efficient fire fighter is frequently called upon to do in the line of duty are different when actually practiced than when merely thought about. The fireman who has done these things every week at drill is going to do them just so much better and more safely than the fireman who has just thought about them and the thoroughly trained department will stop its serious fires just so much more surely and effectively than the department that doesn't drill, as the big league ball team will whip the team composed of those of us who like base ball and think about it and watch but who don't have the benefit of team work in plans and practice. Larger fire departments should have some sort of drill towers. Small departments and volunteer companies can use the fire station or city hall and can find several public spirited citizens who will gladly permit the use of their building for ladder work. Shall we put our own fire department in the class with the trained and successful big league teams or shall we just sit back and hope for roof fires and attack that inevitable big fire with our fists clenched and our eyes shut, each man trying to fight his own fight? Which choice will you make for your department and for the lives and property of the citizens of your city?

Three Points in Efficiency of Apparatus

In conclusion let us sum up the three vitally important ways in which you can obtain greater efficiency for your present fire apparatus. In obtaining fire apparatus the best is none too good. The best work can be done with the best tools. Proper apparatus should be adequate and dependable for the needs of the city. It should be always kept in perfect condition by regular examination and trial, and by conscientious care. In order to enable one city to use its apparatus to help another city at a time of a conflagration all hydrant and hose threads should be changed to conform to the National Standard. Most existing threads can be readily changed to the Standard by the use of tools. The greatest efficiency cannot be expected from your fire apparatus unless each member of your department has been properly trained by study and practice in the fundamentals of modern fire fighting, and unless your department can act as a well schooled and well drilled unit in fighting that great enemy of civilization, fire.

Shovel Snow Banks to Reach Fire.

Chief William B. Edwards and driver Albert Libby of the Brunswick, Me., fire department, equipped with three pony extingushers and extra charges of soda and acid, recently traveled nearly eight miles by trolley, pung and on snowshoes to battle a chimney fire on the old Pringer farm. They were compelled to dig navigate snow banks from three to five feet high for a distance of three miles. The men used snow in connection with the chemicals to extinguish the fire which was confined to the chimney.

School Pupils Undisturbed by Fire

Fire in a waste basket on the first floor of school No. 119 at 133d street, near Eighth avenue, New York, a few days ago, caused smoke to be seen by a passing automobile driver, who ran in, and finding no one, he turned in an automatic alarm. William Flynn, custodian of the building was soon on the spot with a pail of water with which he extinguished the flames. In the meantime fire apparatus were surrounding the building, which was the first intimation the 2,000 pupils and teachers on the floors above had of the danger that had menaced them.

MAXIM City Service TRUCKS

with Maxim-Built Ladders

are unsurpassed for design, completeness of equipment and sturdiness of construction. Like all Maxim apparatus and equipment, they are built "Just a Little Better All Around."

MAXIM MOTOR COMPANY, Middleboro, Mass.

Metropolitan Sales Agents:

The Woodhouse Manufacturing Co., 35 Warren St., New York

The BURRELL All Service GAS MASK

provides

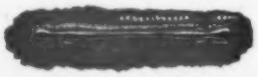
Complete Protection in

Carbon Monoxide Gas, Smoke or Fumes

Send for Bulletin F-3

MINE SAFETY APPLIANCES CO., Pittsburgh, Pa.

BI-LATERAL



FIRE HOSE

We attach rocker lug couplings without extra charge, when wanted.

Write Us For Prices

Bi-Lateral Fire Hose Co.

230 West Randolph Street Chicago, Illinois

C. G. BRAXMAR CO.

242 W. 55th ST., New York City

MORE THAN 900 DESIGNS

Every Fire and Police Department should have our latest catalog illustrating Braxmar Badges—the recognized standard since 1879—Gold Filled, Silver, Gold Plate, Nickel, etc.

BADGES

Ask For Catalog

Always Ready for Instant Use

FOR PERSONAL SAFETY USE

DONTFEAR

SMOKE and FUME RESPIRATOR

Positive Protection

Against Smoke and Smoke Gases

No Sponge. Price $5. With Airtight Goggles $5.60

Gibbs-Wahlert Mask Co.

388 Jay St., Opp. Fire H'q'trs. Brooklyn, N.Y.

GENUINE

FOAMITE PROTECTION

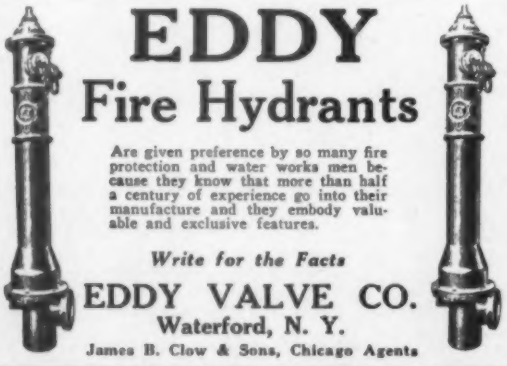
Splashproof Extinguishers — Chemical Tanks — Motorized Equipment

For Every Kind of Fire

"CHILDS" MOTOR FIRE APPARATUS

FOAMITE-CHILDS CORP'N, Fire Protection Engineers

135 Turner Street, Utica, N. Y.



EDDY

Fire Hydrants

Are given preference by so many fire protection and water works men because they know that more than half a century of experience go into their manufacture and they embody valuable and exclusive features.

Write for the Facts

EDDY VALVE CO.

Waterford, N. Y.

James B. Clow & Sons, Chicago Agents

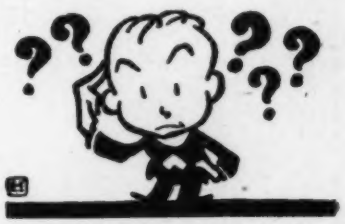
THE INTERNATIONAL LINE includes a Speed Truck for 2000-pound loads and Heavy-Duty Trucks ranging from 3000 to 10,000 pounds, maximum capacities. Municipal equipment available for every purpose. 111 direct Company branches in the United States.

INTERNATIONAL HARVESTER COMPANY

606 S. Michigan Ave of America [Incorporated] Chicago, Ill.

INTERNATIONAL HARVESTER TRUCKS COMPANY

Why Not Let Us Help You Get The Information You Want?



This page is here to make it *convenient* for you to get complete specifications and prices from *reliable* manufacturers of equipment needed for your department. It is *your* page to use freely without any obligation.

To get the information you want, just mail in the coupon below with your name and address and numbers that indicate the equipment listed below on which you would like descriptive literature.

We will then notify reliable manufacturers of your interest in such equipment and request that they send you complete information. They will gladly do this and it will be a pleasure for us to help you in this way. No charge whatever! Help yourself!

Here's Your List of Fire Protection Equipment and Supplies

1 Acid Siphons.
2 Adaptors for Changing Hydrant Threads.
3 Acid Jars and Rings.
4 Aerial Ladders, Detachable.
5 Aerial Trucks.
6 Alarms, Siren, Electric.
7 Alarm Systems, Industrial.
8 Alarm Systems, Municipal Telegraphic.
9 Alarms, Thermostatic.
10 Asbestos Clothing.
11 Badges, Insignias, Buttons, etc.
12 Banners, Trumpets, etc.
13 Battery Jars.
14 Battery Zincs for Fire Alarm Batteries.
15 Bells, Fire Alarm, Municipal.
16 Body Equipments.
17 Boxes, Gongs, Reels, Registers, Fire Alarm.
18 Brakes, Air.
19 Brake Linings.
20 Brooms, Fire.
21 Building Materials, Fire Retardant.
22 Cable & Wire, Fire Alarm.
23 Caps, Firemens.
24 Chains, Non-Skid, Fire Apparatus.
25 Chassis for Fire Apparatus.
26 Chemical Engines and Tanks.
27 City Service Trucks.
28 Coats & Suits, Firemen's Quick Hitch.
29 Combination Chemical & Hose Cars.
30 Cutting & Welding Equipment, Blow Torch.
31 Cutting & Welding Equipment, Electric.
32 Deluge Sets.
33 Door Openers, Fire Station, Automatic.
34 Extinguishers, Fire, Soda & Acid.
35 Extinguishers, Fire, Tetrachloride.
36 Extinguishers, Fire, Foam.
37 Extinguishers, Fire, Powder.
38 Fire Boat Nozzle Equipment.
39 Fire Department Supplies, General.
40 Fire Drills & Organizations.
41 Fire Exit Devices, Door Opening.
42 Fire Alarm Posts.
43 Fire Escapes, Portable.
44 Fire Escapes, Rigid.
45 First Aid Equipment.
46 Flare Lights.
47 Flashlights, Hand.
48 Foam Liquid for Extinguishers.
49 Gas Masks and Respirators.
50 Gas & Smoke Helmets.
51 Gasoline & Oil Handling Equipment.
52 Goggles, Firemen's.
53 Helmets, Metal, etc.
54 Hose Carts, Reels & Racks.
55 Hose Clamps.
56 Hose, Fire.
57 Hose, Chemical.
58 Hose Holders.
59 Hose Jackets.
60 Hose Standardization Tools.
61 Hydrant Draining Pumps.
62 Hydrants, Fire.
63 Jacks for Fire Trucks.
64 Jacks, Shoring & Prying.
65 Ladders, Fire.
66 Lightning Arresters.
67 Motorcycles, Fire Dept. Equipped.
68 Nets, Life.
69 Nozzles, Pipes & Misc. Brass Goods.
70 Packings, Pump.
71 Pads, Pole Hole.
72 Paints, Fire Resisting.
73 Priming Ether, Motor.
74 Pumping Cars, Standard.
75 Pumping Cars, Foam.
76 Pumps, Fire Apparatus.
77 Pumps, Fire Service, Stationary.
78 Pumps, Portable, for Fire Protection.
79 Record Books, Fire.
80 Relief Valves.
81 Reviving Apparatus, Oxygen.
82 Rubber Clothing.
83 Searchlights.
84 Shingles, Fire Retardant.
85 Shirts, Firemen's Special.
86 Sirens, Apparatus & Chiefs Cars.
87 Sliding Poles.
88 Soda & Acid Chemicals.
89 Spark Plugs, Fire Apparatus & Motorcycles.
90 Squad and other Auxiliary Cars.
91 Sprinkler Head Shut-Offs.
92 Sprinkler Supervisory Service.
93 Sprinkler Systems, Automatic, Foam.
94 Sprinkler Systems, Automatic Water.
95 Starters, Fire Apparatus, Automatic, Air.
96 Steam Fire Engines.
97 Tarpaulins & Fire Blankets.
98 Tetrachloride Chemicals.
99 Thawing Equipment, Hydrant.
100 Tires, Fire Apparatus, Pneumatic, Solid, Cushion and Non-Skid.
101 Tractors.
102 Traffic Clearing, Systems.
103 Triple Combination Pumping Cars.
104 Uniforms.
105 Water Towers.
106 Wheels, Cushion.
107 Whistles, Fire Alarm, Compressed Air.
108 Whistles, Fire Alarm, Steam.
109 Whistles, Fire Apparatus.
110 Wrecking Trucks.

——————————————TEAR OFF HERE——————————————

FIRE ENGINEERING

225 West 34th St., New York City.

As a fire protection official I should like to have descriptive literature and complete information mailed to me, without cost or obligation, on the equipment indicated by the following numbers:

Date.....

Name .....

Position .....

Street .....

City and State.....

Nos. .....

Nos. .....

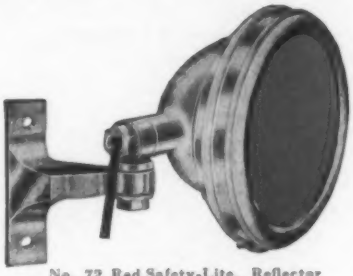
Nos. .....

For Information on Any Equipment Not Listed Above, Write on This Page or Use Separate Sheet. **Mar. 25, 1926**

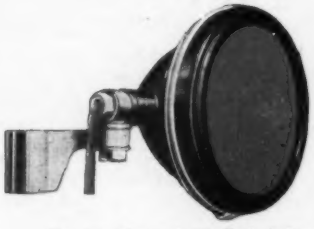
S & M Special Lighting Equipment

Red Safety-Lites, Head-Lites, Search-Lites, Pick-Up-Lites and Spot-Lites for Fire Apparatus, Police Cars and Ambulances.

No. 14 Red Safety Side-Lite. Reflector 6½" diameter.



No. 72 Red Safety-Lite. Reflector 5¾" diameter.



No. 90, 80 and 70 Red Safety-Lites. Reflectors 7½", 6½" and 5¾" diameter respectively.

Use S & M Red Safety-Lites for your protecti on. They can easily be seen for several blocks and are used as a warning to pedestrians and all traffic in the direction of approach of Fire Apparatus, Police Cars and Ambulances. None of these departments should be without them.

S & M Safety-Lites protect the Motorist, the Pedestrian and the Personnel of Police and Fire Departments

Write for descriptive catalog and prices

S & M LAMP CO. (Inc.)

118 W. 36th Street
Los Angeles, Calif.

Manufacturers of high grade lighting equipment

MATHEWS

(Reg. U. S. Pat. Off.)

FIRE HYDRANTS

for

DOMESTIC

and

HIGH PRESSURE

Service

Note—

The positive waste valve.

All operating threads are above the Stuffing box.

No toggles, small screws or other small, quick-wearing parts.

All moving parts are bronze or bronze bushed.

The outside casing permits replacing a two-way standpipe with a steamer and two-way standpipe without digging up the ground.

Valves and Boxes
Cast Iron Pipe and Fittings

R. D. WOOD & CO.
Phila., Pa.

Do what This Chief Did

A well-known Fire Chief of one of our large cities specified Signal Two Collar Shirt, number 25, for his entire department.

With all the men wearing the same style and kind of shirt the department is now absolutely uniform, and the Chief and his men take pride in their appearance.

This Signal Shirt is long-wearing, dressy and practical. The two collars save wear and washing.

Signal Shirt Company
Racine, Wisconsin

Signal

ADVERTISING INDEX

Advertising Pays—in Fire Engineering

Ahrens-Fox Fire Engine Co..... 281
Amdyco Corp..... 285
American District Telegraph Co..... 283
American-LaFrance Fire Engine Co.....*Front Cover*
American Steam Pump Co..... 319
Bi-Lateral Fire Hose Co..... 322
Braxmar Co., C. G..... 322
Buffalo Fire Appliance Corp..... 311
Clay, Inc., John H..... 320
Combination Ladder Co..... 312
Darling Valve & Mfg. Co..... 315
Eastman Co., Samuel..... 319
Eddy Valve Co..... 322
Erick Electric Siren Co..... 320
Eureka Fire Hose Mfg. Co.....*Back Cover*
Everson-Ross Co..... 308
Fabric Fire Hose Co.....*Inside Back Cover*
Firestone Tire & Rubber Co..... 282
Foamite-Childs Corp..... 322
Fulton Bag & Cotton Mills..... 312
Gibbs-Wahlert Mask Co..... 322
Hale Fire Pump Co..... 319
Hahn Motor Truck Co..... 320
Henderson-Ames Co..... 319
Hendrie & Bolthoff Mfg. & Supply Co..... 320
Information for Buyers..... **323**
International Harvester Co..... 322
International Motor Co..... 312
Jaeger Portable Power Corp..... 319
Johns-Manville, Inc..... 284
Mack Trucks, Inc..... 312
Maxim Motor Co..... 322
Mine Safety Appliances Co..... 322
Morse & Son, Inc., Andrew J..... 320
National Electric Specialty Co..... 319
Pirsch & Sons Co., Peter..... 308
Rensselaer Valve Co..... 320
S. & M. Lamp Co..... 324
Sanford Motor Truck Co..... 279
Seagrave Corp..... 307
Signal Shirt Co..... 324
Sireno Co., Inc..... 316
Sterling Siren Fire Alarm Co....*Inside Front Cover*
Stoughton Wagon Co..... 320
Union Water Meter Co..... 308
Waterous Fire Engine Works..... 286
Wood & Co., R. D..... 324
Woodhouse Mfg. Co..... 320

Step Out!

You step out into new fields of opportunity by using FIRE ENGINEERING to keep you in touch with the news and development of your profession.

If not already a subscriber, this blank mailed to 225 W. 34th St., N. Y. C., will start your subscription with the current issue, and within 30 days you can pay $3 for the 24 issues of the year. What say? Please write clearly!

Your Name .....

Position .....

Address .....

A Subscription to Fire Engineering

releases you from confinement in your own department. It brings the fire fighting world to you!

Three New Books
Every Fire Officer
Should Have

Questions and Answers for Battalion and Deputy Chiefs

by Geo. J. Kuss, Former Deputy Chief N. Y. F. D., and Fred Shepperd, B. Sc., M. E., Managing Editor, FIRE ENGINEERING. It contains 210 pages of invaluable instruction for progressive fire department officers, and is indispensable for Captains, Battalion and Deputy Chiefs and other officers studying for promotion.

It contains questions from promotional examinations throughout the country, with answers by Deputy Chief Kuss, (N. Y. F. D.) and Fred. Shepperd. Price $2.00—postpaid $2.15.

Questions and Answers for Lieutenant and Captain

by George J. Kuss, Former Deputy Chief N. Y. F. D., and Fred Shepperd. A 290-page book of promotional questions and answers for candidates for lieutenants and captains.

It includes questions asked at promotional examinations in practically every city in the country where civil service examinations are held, with answers by Chief Kuss and our Editor. Price $2.50—postpaid $2.65.

Simplified Fire Department Hydraulics

BY FRED SHEPPERD, B. Sc., M. E.

A brand new book describing in a simplified method all of the rules and formulæ required in the solution of fire department promotional examination questions in hydraulics.

Also contains nearly 200 problems on hydraulics asked in examinations in large departments throughout the country. 170 pages fully illustrated. Price $2—postpaid $2.15.

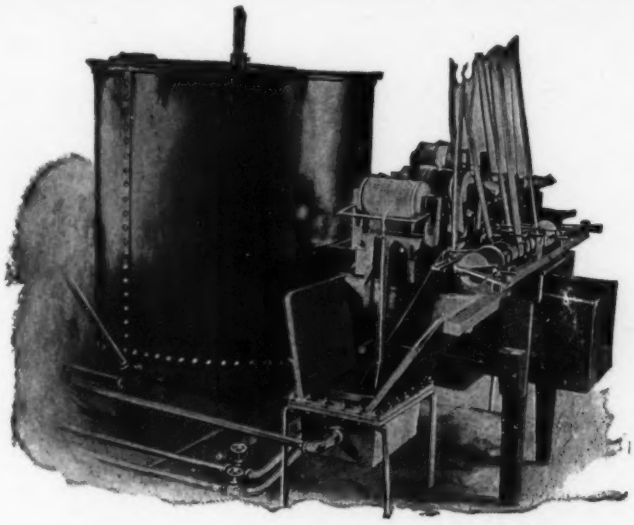
Use This Coupon to Order Your Copies

Book Department,
FIRE ENGINEERING
225 W. 34th St., N. Y. C.

Please send me .....copies of Questions and Answers for Battalion and Deputy Chiefs, ... copies of Questions and Answers for Lieutenants and Captains, and..... copies of Simplified Fire Department Hydraulics, for which I enclose a money order for $.....

Name..... Rank.....

Address..... Date.....



One of the machines used in the manufacture of the famous

FABRIC

Wax and Para Gum Treated Cotton Rubber Lined Fire Hose

OUR first process—that of treating cotton yarn with melted wax and Para gum. The "wax" is ozocerite and the "gum" is smoked latex from the rubber tree. This compound is kept in hot solution in the steam heated cylindrical tank of the TREATMENT MACHINES. The hose cord passes through this hot "treatment" and becoming thoroughly impregnated renders the fire hose fabric from which it is woven, MILDEW-PROOF, ROT-PROOF, PLIABLE, STRONG and DURABLE.

Fabric Fire Hose Co.

127 Duane St., New York, N. Y.

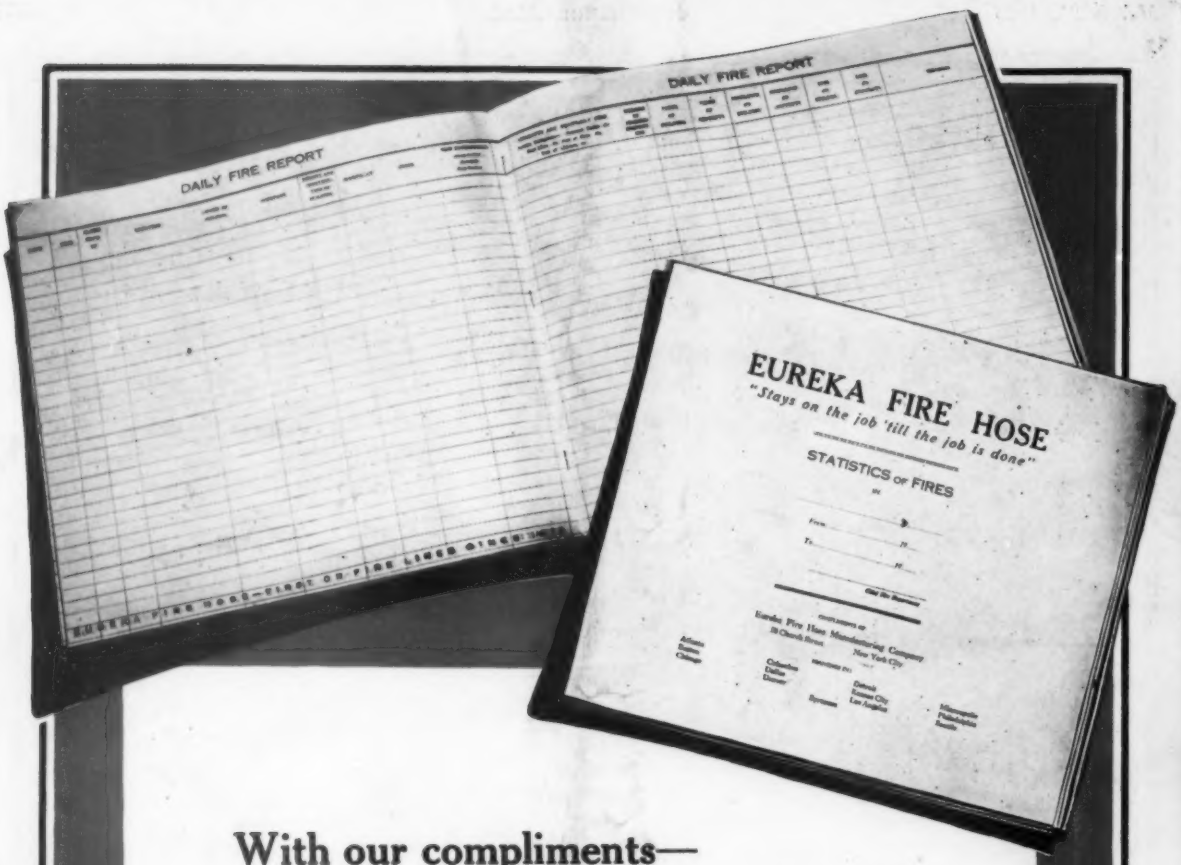
124-126 W. Lake Street, Chicago

Atlanta
Boston
Columbus

Dallas
Binghamton
Baltimore

Minneapolis
Portland
San Francisco

Los Angeles
Newark
Pittsburgh



With our compliments—

Many of our good friends in Fire Departments throughout the country have told us how valuable a daily Fire Report Book would be to them in keeping their records.

Here it is — a twenty-page book with spaces for entries under — date — time — location — building owner — construction of building — cause of fire — how extinguished — apparatus — insurance — loss, etc.

We will be glad to send any Fire Department a copy with the compliments of Eureka Fire Hose. Write for your copy today.

EUREKA
FIRE HOSE

Eureka Fire Hose Manufacturing Company

50 CHURCH STREET NEW YORK CITY

ATLANTA BOSTON CHICAGO COLUMBUS DALLAS DENVER DETROIT KANSAS CITY LOS ANGELES MINNEAPOLIS NEW YORK PHILADELPHIA SALT LAKE CITY SYRACUSE

PRINTED BY THE WILLIAMS PRESS, ALBANY, N. Y.